



DOCTOR OF CLINICAL PSYCHOLOGY (DCLINPSY)

Doctorate in Clinical Psychology: Main Research Portfolio

1) A comparison of the efficacy of psychological interventions for mania and depression in bipolar disorder: a systematic review; 2) A trans-diagnostic cognitive behaviour therapy group in a secondary care mental health service; 3) A test of a cognitive model of violence: a comparison of thinking in violent and non-violent men.

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Research Portfolio Submitted in Part Fulfilment of the Requirements for the Degree of Doctorate in Clinical Psychology

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Doctorate in Clinical Psychology

University of Bath

Department of Psychology

June 2015

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Abstracts

Critical review of the literature

A comparison of the efficacy of psychological interventions for mania and depression in bipolar disorder: a systematic review.

According to DSM-V a diagnosis of bipolar disorder (BD) requires a history of major depression and either mania, hypomania or mixed episodes. Although there is substantial research in the field of psychological interventions for BD, including several reviews and meta-analyses, there is a lack of understanding about the differential effect of psychological intervention on depression and mania. This review sought to address this by synthesising available research of psychological interventions for BD and exploring the effects specifically on depression and mania. Systematic searches of databases were conducted and resulting studies were assessed for eligibility. In total 22 articles were included and these explored two broad psychological approaches; cognitive-behavioural therapy (CBT), which included a study of mindfulness-based cognitive therapy, and psychoeducation. One study also looked at other approaches and the effect of therapy on recovery from BD depression.

Results were reported for four key outcomes from studies that provided results separately for depression and mania; survival time to relapse, number of relapse episodes, symptom severity and time in episode. Findings from studies were highly inconsistent with some finding differential effects for depression and mania, some finding no benefit for either and others finding benefit for both. This prevented conclusions being drawn regarding the primary question of this review and instead highlighted the need for further consideration and consensus on what constitutes a meaningful outcome for individuals with BD. Furthermore, none of the interventions reported in the included studies appeared to be based upon a validated, disorder-specific theoretical model of BD. Clinical and research implications of these findings are discussed.

Service Improvement Project

A trans-diagnostic cognitive behaviour therapy group in a secondary care mental health service.

This study investigated the effectiveness of a trans-diagnostic Cognitive-Behavioural Therapy (CBT) group delivered in a secondary care community mental health service. Using a published framework for service improvement the evidence base of trans-diagnostic interventions was explored and critiqued before the routinely collected outcome data of five group programmes was analysed. Pre- and post-group data, collected using the Clinical Outcomes in Routine Evaluation (CORE-10) and the Work and Social Adjustment Scale (WSAS), were available for 51 participants. Results of those who completed the group ($n=42$) showed that scores on both the CORE-10 and WSAS were significantly reduced over the duration of the group. These findings remained in an intention-to-treat sample ($n=51$).

The results suggested that the group had a positive effect on the symptoms and social functioning of those who attended. However, firm conclusions could not be drawn due to limited information collected about participant characteristics and effects of individual sessions. Recommendations, therefore, related to improving future evaluations of the group through the collection of more information. This included participant demographics and diagnosis, the use of additional disorder-specific outcome measures, pre- and post-group session-by-session feedback, a measure of CBT skill development and the collection of follow-up data.

The group was delivered following these recommendations and a further evaluation is reported that also comments on the implementation of these recommendations. Findings and suggestions for future research are discussed.

Main research project

A test of a cognitive model of violence: a comparison of thinking in violent and non-violent men.

The cognitive model of violence proposes that the beliefs and conditional assumptions of the individual, related to self-esteem, are important in the development of violent behaviour. It is suggested that this manifests as an enduring tendency to misinterpret ambiguous social situations as indicating that other people are critical of the person in ways signifying serious disrespect. This study tested the cognitive model of violence using a new measure, the Violence Interpretation Questionnaire (VIQ), which assesses interpretation and anticipated behavioural response to interpersonal and non-social situations. Three groups of men were compared; violent offenders (offender group; $n=17$) and two online control groups, one that reported violence (aggressive control group; $n=28$) and one that did not (non-aggressive control group; $n=69$). It was hypothesised that the violent participants would interpret VIQ interpersonal situations in a more negatively self-reverent manner than control participants, but that there would be no difference for non-social items. It was also predicted that VIQ interpersonal scores would correlate with another measure of violent thinking, the Maudsley Violence Questionnaire (MVQ).

Results showed that, in line with the primary hypothesis, the offender and aggressive control groups interpreted interpersonal situations more negatively than non-aggressive controls but no difference was found on non-social items. Interestingly, the VIQ aggression score of the aggressive control group was significantly lower than the offender group and no different to the non-aggressive controls. This suggests that although the aggressive controls *interpreted* situations like the offenders they anticipated *responding* like non-aggressive controls. VIQ interpersonal scores significantly correlated with MVQ machismo scores, providing some concurrent validity to the VIQ. These findings provide evidence for the role of negative, self-referent interpretations in the development of violence but also highlight a potential difference that comes into play after such an appraisal is made that differentiates the offenders from the aggressive controls.

Word count

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Critical review of the literature

A comparison of the efficacy of psychological interventions for mania and depression in bipolar disorder: a systematic review.

Emily Garner, Department of Psychology, University of Bath

June 2015

Academic supervisor: Dr James Gregory

Inter-rater: Kate Cooper

Word count: 7107

Journal submission

This review will be submitted to the *Clinical Psychology Review*. This journal was chosen because it has a good five-year impact factor (9.86) and publishes high quality literature reviews specific to the field of clinical psychology (Appendix O).

Introduction

Bipolar disorder (BD) is estimated to affect around 1.5% of the population (Merikangas et al., 2007) and a diagnosis requires a history of both major depression and either mania, hypomania or mixed episodes (DSM-V; American Psychiatric Association, 2013). BD is associated with very high relapse rates with one study finding approximately 90% of patients relapse during the five years following initial onset (Tohen, Waternaux, & Tsuang, 1990).

The NICE guidance for the management of BD (CG185, 2014) suggests that patients with bipolar depression should be offered either a structured, manualised and evidence-based psychological intervention developed specifically for BD or a high-intensity therapy such as Cognitive-Behavioural Therapy (CBT) as outlined in the NICE guidance for depression. The guidance does not mention psychological intervention for the treatment of mania and hypomania, referring only to pharmacological treatments. Similarly, no mention of the psychological treatment of mania is made in the guidance for the longer-term management in secondary care, although general recommendations are made again for a structured, manualised, evidence-based psychological intervention with the aims of preventing relapse and reducing persistent symptoms that remain between episodes. These recommendations suggest that psychological interventions are effective for bipolar depression but by omission suggest that this is not so for mania, and pharmacology represents the only acute and prophylactic treatment for mania and hypomania.

When considering the current evidence base it seems that results across therapeutic approaches are inconsistent. Some reviews have concluded that psychological interventions are effective and that there is little difference in terms of benefit between them. For example, in their systematic review, Scott and Gutierrez (2004) found that adjunctive psychological therapy was beneficial for reducing relapse rates and results were comparable across different approaches including CBT, Family-Focused Therapy (FFT), Interpersonal Social Rhythm Therapy (IPSRT) and psychoeducation. Similar conclusions were made in a narrative review by Scott (2006), which found that, although psychological interventions reduced relapse rates, there was no evidence that one approach was more effective than another. This was further supported by a meta-analysis by Scott, Colom, and Vieta (2007) in which the authors also noted similarities between treatment approaches. However, other reviews have reported differences between therapies. For example, Beynon, Soares-Weiser, Woolacott, Duffy, and Geddes (2008) conducted a systematic review of interventions for the prevention of relapse and found that, in general, psychological interventions such as CBT and group psychoeducation were effective in reducing relapse, but psychosocial interventions, such as care management and integrated group therapy, did not demonstrate these benefits.

Several authors have noted the lack of knowledge about the mechanisms of action for different interventions (Geddes & Miklowitz, 2013; Lam, Burbeck, Wright, & Pilling, 2009;

Scott, 2006) and often psychological interventions appear to have been developed without a grounding in BD-specific theory (Jones, 2004). In addition, variability of outcome variables used in different studies further complicates interpretation of findings and potentially contributes to the inconsistent results reported within this field. For example, Beynon et al. (2008) focus on relapse prevention, whilst others, including Miklowitz (2008), also explore symptom severity and psychosocial functioning. Time-point of assessment is also an important consideration; although post-treatment outcomes provide useful information about the effectiveness of treatments, the effect that treatment has after it ends is arguably more important. This view appears to have been shared by Scott and Gutierrez (2004) who only included studies that reported a follow-up period of six months or more in their systematic review. Research studies that only include pre- and post-treatment data risk presenting misleading results as findings during treatment may well be confounded by other aspects of receiving a psychological intervention, for example having weekly meetings with a healthcare professional or the support of a group.

Despite the inconsistent findings in this area and the different recommendations provided by NICE for mania and depression in BD a review of the literature focusing on the differential effects of psychological interventions on depression and mania has not been conducted. However, initial reference to differential effects has been made in some reviews. For example, in their systematic review and meta-analysis, Scott and Gutierrez (2004) mentioned the efficacy of short interventions that address relapse prevention or medication adherence for symptoms of mania but not for depression, which they found requires longer, formulation-based interventions such as IPSRT and Cognitive Therapy (CT). Scott (2006) found that therapy appears to be more effective for symptoms of depression despite many interventions being developed to target and prevent manic relapse, such as FFT and IPSRT.

Miklowitz (2008) made some initial conclusions about treatment effects on depression and mania, although acknowledged that the number of studies detailing depression and mania independently were limited. It was suggested that interventions that target increasing medication adherence and early identification of prodromes are more effective for treating mania, whereas interventions that focus on the development of cognitive and behavioural skills for managing relationships are more effective in treating depression. However, with high variability of findings across outcome measures and studies it is unclear how these conclusions were derived. Furthermore, the review was not conducted using a systematic methodology, providing no safeguards against the omission of relevant studies and data, and potential bias in sampling. Little confidence can, therefore, be placed in these specific conclusions made in this review but it nonetheless adds to the argument for further research into whether or not psychological treatments for BD work equally well for symptoms of depression and mania.

Some efforts have been made to address the issue of treatment specificity in

psychopharmacology in a meta-analysis by Geddes, Burgess, Hawton, Jamison, and Goodwin (2004). They found a differential effect of lithium on mania and depression and this provided support for the use of this medication in individuals for whom symptoms of mania were the most debilitating problem. For psychological intervention of BD there is some preliminary evidence for differential effects on symptoms of depression and mania. However, the body of literature lacks a clear interpretation of such results that explores theoretical and clinical implications. The central objective of this exploratory review is, therefore, to provide a clear synthesis of research evidence relating to the psychological interventions for depression and mania in BD. This review seeks to ask a new question of the data presented in published randomised controlled trials (RCTs); are different psychological interventions for BD more effective for depression or for mania? Results will be considered with reference to psychological models of BD and the outcomes variables employed, and the clinical utility of findings will be discussed.

Method

Inclusion criteria

Design of studies

RCTs comparing a psychological intervention with a control condition were included in this review. Studies were written in English and included a quantitative statistical investigation of the effect of psychological intervention on the course or symptomatology of BD. Studies reported a follow-up period of at least three months after the end of the intervention (booster sessions were included in the period of intervention). Data were not reported elsewhere: in order to prevent duplication of findings in this review, where results were reported in an initial study and then again in a subsequent paper but with additional follow-up data, the former were excluded and the latter included.

Participants

Individuals were aged 18 years or over with a diagnosis of BD type I or II made according to DSM-IV, DSM-V or ICD-10 criteria¹ using a standardised screening tool (i.e. Structured Clinical Interview for DSM-IV [SCID] or Mini International Neuropsychiatric Interview [MINI]).

¹ DSM-IV introduced 'hypomania' and BD subtypes I and II. Studies using earlier versions were excluded on the basis that they might have excluded participants with less severe mania symptoms than more recent studies.

Exclusion criteria

A small number of studies explored the effect of specialist care that incorporated some type of psychological intervention with specialist pharmacology (i.e. Kessing et al., 2013). Such studies were excluded on the basis that it would not be possible to determine the effect of psychological intervention alone.

Selection of studies

Search information

The electronic databases PubMed, PsycNET, Scopus, Embase and the Cochrane Libraries were searched using terms grouped into three categories – ‘bipolar disorder’, ‘study design’ and ‘psychological therapy’ (see Appendix A). The search terms under these three headings were run using the Boolean operator OR and then run together using AND to ensure that resulting studies included a term from each of the three key categories. Additional searches were performed in Google Scholar as a further check to ensure no articles were missed. The databases provide different options so the searches in PubMed, Embase and Cochrane title and abstract searches were used whereas in PsycNET and Scopus searches of title, abstract and keywords were employed. Grey literature was not explored. Hand searching was conducted of relevant reviews in the field and the references of included studies were also checked.

Eligible studies

The initial searches produced 1332 results after duplicates were removed. The first author screened the titles and abstracts of these studies and a further review of full text was performed on the remaining 94 studies. (Reasons for exclusion of studies after full-text review are presented in Appendix B.) See Figure one for the study selection process.

The entire screening process was inter-rated by a trainee clinical psychologist². A sample (25%) of the 1332 identified studies was selected using a random sequence produced by the website, Random.org. Inter-rater agreement was 99.7% with a Cohen’s kappa coefficient of $k=0.91$. This was considered to be sufficiently high to justify the inter-rating of a proportion of the sample³.

² In total 333 articles were screened by second rater blind to the initial screen. On the basis of title and abstract 305 were excluded with 28 articles then reviewed in full. The second rater included six studies, five of which had been previously identified. After discussion this additional article was excluded.

³ Landis and Koch (1977) provide guidance on measures of agreement of independent raters of categorical data. They suggested that a Cohen’s kappa coefficient of 0.81-1.0 represented ‘almost perfect’ agreement.

Data extraction

Data was extracted from studies and collated in a database. All data were checked for accuracy by a trainee clinical psychologist. Disagreements were discussed and the original article was consulted where appropriate to ensure all data reported were accurate.

Data items

Information extracted from each article comprised: inclusion criteria, location, sample size, age, gender, presentation at entry, diagnostic tool, symptom-related outcome measures, primary and secondary outcomes, details of intervention and control conditions, length of treatment and control, length of follow-up period and results.

Although there were a number of different outcome variables explored in the included studies, only those relevant to the research question of this review were identified; these were the variables for which it was possible to consider the results separately for depression and mania. For example, several studies reported symptom severity data for both depression and mania and these were included, whereas social functioning is a global measure of outcome in BD and was therefore omitted. Along with *symptom severity at follow-up* the outcomes identified were *survival time to relapse*, *number of relapse episodes* and *time spent in episode*. One study (Miklowitz et al., 2007b) focused on time to recovery for participants who fulfilled criteria for major depressive episode at intake; these results are discussed separately below.

Quality ratings

Included articles were rated for quality using a scale developed by Öst (2008). The Psychotherapy Outcome Methodology Rating Form (POMRF) comprises 22 items against which studies are rated (zero: poor, one: fair, two: good). The items relate to a range of aspects of the design of a study and once ratings have been made a total score is calculated (see Appendix C). This quality rating scale was selected due to it being designed for rating the quality of psychotherapy trials and it has been adopted in other reviews (i.e. Swain, Hancock, Hainsworth, and Bowman, 2013).

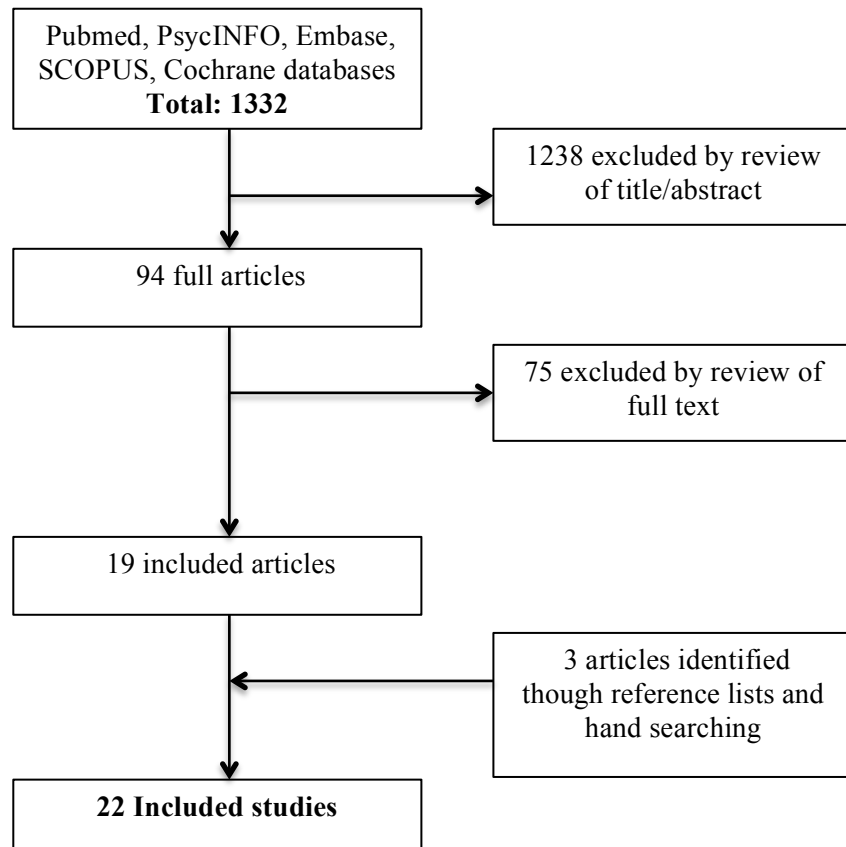


Figure one. Selection of studies

Results

A total of 2098 participants with BD were included in the 22 studies that met the inclusion criteria, details of which are presented in Table one. The studies explored the effect of three broad types of psychological intervention; CBT or CT (13 studies), psychoeducation (seven studies) and MBCT (one study). The remaining study differed in its design and explored the effect of CBT, IPSRT and FFT on time to remission from bipolar depression (Miklowitz et al., 2007b). Studies have been grouped together based on the main approach of the experimental intervention.

Study characteristics

CBT and CT intervention studies

Some studies investigated the effects of CBT interventions that were adapted specifically for BD. Ball et al. (2006) adapted CT for BD based upon their model of chronic

illness behaviour through the inclusion of psychoeducation, identification of warning signs and the importance of establishing stable routines. They compared this with treatment as usual (TAU) over a follow-up period of one year. Similarly, Meyer and Hautzinger (2012) compared adapted CBT with supportive therapy. Supportive therapy was said to differ from CBT in that the therapists adopted a 'client-centred focus' and dealt with any issues that the participant brought to the session, whereas the CBT treatment was based on individual formulation and linked the content to the individual's experience. Jones et al. (2014) compared TAU with an adapted CBT intervention with the intention of reducing relapse and improving recovery in the first five years after onset. The authors list the main differences from standard CBT as being an emphasis on individual-focused goals rather than relapse prevention, a formulation-driven intervention as opposed to a standard model of bipolar experience, flexibility to work with what the individual brings to therapy, capacity to address comorbidities rather than focusing on depression and mania, and an emphasis on reducing self-critical and stigmatising language.

Weiss et al. (2007) compared an integrated group treatment for comorbid BD and substance dependence. Integrated group therapy consisted of 20 sessions of CBT-based relapse prevention that highlighted the similarities between BD and substance dependence. One of the key premises behind the intervention was that cognitions and behaviours that assisted in recovery from one disorder were likely to be beneficial to the other. This intervention was compared with 20 sessions of group drug counselling, a treatment that focused solely on recovery from substance dependence. Weiss et al. (2009) further developed this intervention with the aim of making it more 'community-friendly'. The number of sessions was reduced from 20 to 12 and the experience required of therapists was reduced from doctoral to masters level with no expectation of formal CBT training.

Scott et al. (2006) delivered an individual CBT intervention based on Beck's cognitive model of depression and the self-help guide by Scott (2002), which was informed by the stress-vulnerability model, and compared this to TAU. Gomes et al. (2011) developed a disorder-specific group CBT intervention also informed by this self-help guide. It covered four domains: psychoeducation, cognitive-behavioural strategies for managing depression and mania, skills for problems specific to BD including assertiveness and problem-solving, and relapse prevention. This intervention was compared to TAU over a follow-up period of one year.

The stress-vulnerability model informed several other studies that referred to the protocol of Lam, Jones, Hayward, and Bright (1999). This intervention combined medication adherence with psychological therapy, providing information on monitoring and managing prodromes, advocating regular sleep patterns and routines, and addressing extreme goal acquisition attitudes. Lam et al. (2000) compared this intervention with TAU and Lam, Hayward, Watkins, Wright, and Sham (2005) conducted a similar study with a longer follow-up period of two years.

González Isasi et al. (2010b) conducted a pilot study of the effect of a group intervention that combined CT, based on the protocol of Lam et al. (1999), with psychoeducation and compared this to monthly medication review. This intervention was further explored by González Isasi, Echeburúa, Limiñana, and González-Pinto (2014) in a subsequent study with a five-year follow-up period, and by Parikh et al. (2012) who compared 20 sessions of individual CBT with six sessions of the Life Goals Programme, a psychoeducational group intervention (Bauer & McBride, 2003).

Zaretsky, Lancee, Miller, Harris, and Parikh (2008) also compared CBT with psychoeducation. They delivered a seven-week psychoeducation intervention based on the manual of Basco and Rush (1996) and then those assigned to the treatment condition received a further 13 sessions of CBT, also based on this manual.

Psychoeducation studies

Similarly to the CBT group, some psychoeducational studies explored interventions developed specifically for BD. Castle et al. (2010) delivered a psychosocial group intervention based on the stress vulnerability model. This programme combined information and skills from four areas: monitoring mood and activities, assessment of prodromes, relapse prevention and goal setting. This intervention fell broadly under the umbrella of psychoeducation but also aimed to develop coping strategies. The control condition consisted of TAU but both groups also received weekly telephone calls. Smith et al. (2011) conducted an exploratory study of internet-based psychoeducation, 'Beating Bipolar', and compared to TAU. D'Souza, Piskulic, and Sundram (2010) developed a psychoeducation programme for participants with BD and a companion with the aim of improving the effect of interventions for the individual and those for caregivers alone. The Systematic Illness Management Skills Enhancement Programme-Bipolar Disorder (SIMSEP-BD) was compared to TAU (community-based case management with weekly 45-minute clinician review and monthly medication review).

Sajatovic et al. (2009) compared the manualised Life Goals Programme (Bauer & McBride, 2003) with TAU. Life Goals programme is based upon behavioural and self-regulation theories. Participants attend 'phase one', a six-week course of psychoeducational sessions, followed by an optional 'phase two', unstructured monthly sessions that focus on goal-setting and problem solving.

Colom et al. (2003b) explored group psychoeducation that they developed, similar to the Life Goals Programme. This was compared with a support group delivered by the same clinicians and at the same frequency as psychoeducation with a follow-up period of one-year. Psychoeducation aimed to increase illness awareness, compliance with treatment, identification of prodromes and relapse, and to establish regular routines. Colom et al. (2009b) employed this design but delivered an intervention published in their treatment manual (Colom & Vieta, 2006)

and reported a longer follow-up period of five years. Reinares et al. (2008) delivered this same intervention (Colom & Vieta, 2006) to caregivers; the participants with a diagnosis did not attend the group but outcomes were based on their symptoms and illness. This was compared to no intervention for caregivers.

MBCT

MBCT was adapted to include information about BD and this was compared with TAU (Perich, Manicavasagar, Mitchell, Ball, & Hadzi-Pavlovic, 2013).

Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) study

The study by Miklowitz et al. (2007b) focused on time to recovery from episode and participants were required to be in current major depressive episode at randomisation. The intervention condition was ‘intensive psychotherapy’ and this included three treatment arms: CBT, IPSRT and FFT. Intensive psychotherapy, with a maximum of 30 sessions over nine months, was compared with collaborative care; three individual 50-minute psychoeducational sessions held in the six weeks following randomisation.

Outcomes

Outcome data are shown in Table two and Appendix D. Results are presented using mean and standard deviations where available and significance was determined using $p < 0.05$. The four primary outcomes (time to relapse, number of episodes, symptom severity and time in episode) are reported separately.

Survival time to relapse

Nine studies reported survival time to depressive and manic relapse. Six of these were CBT studies, four of which found no significant difference between CBT and control for survival time to depressive or manic relapse (Ball et al., 2006; Gomes et al., 2011; Meyer & Hautzinger, 2012; Parikh et al., 2012). However, two studies found significant differences to the control condition; Jones et al. (2014) found that recovery-focused CBT was associated with significantly longer time to both depressive and manic relapse than control and Lam et al. (2005) found significantly longer time to depressive relapse in the CT group, but no difference for manic relapse. Two psychoeducation studies reported this outcome; Castle et al. (2010) found that the intervention was associated with significantly longer survival time to depressive and manic relapse than the control condition, whereas Reinares et al. (2008) found that time to manic relapse was longer in the caregiver psychoeducation group compared to control, but no difference was found for depressive relapse. Perich et al. (2013), who explored MBCT, did not find any significant differences between intervention and control conditions.

The majority of CBT studies found no significant benefit of intervention over control for time to both depressive and manic relapse with only two of the six studies finding a significant result. Both psychoeducation studies reported some positive effects of treatment but with only two studies reporting this outcome it is difficult to generalise these findings. Furthermore, studies that reported significant differences compared treatment with control conditions of TAU (Castle et al., 2010; Jones et al., 2014), ‘minimal psychiatric care’ which appears similar to TAU (Lam et al., 2005) or no intervention (Reinares et al., 2008), whereas two of the five studies that did not find significant differences used an active control condition (Meyer & Hautzinger, 2012; Parikh et al., 2012). This makes it difficult to determine if positive effects from treatment arise from the psychological intervention itself or other aspects involved in receiving therapy.

Number of episodes

Twelve studies explored number of episodes; six CBT studies and five psychoeducation studies. Four CBT studies found no difference between CBT and control (Ball et al., 2006; Gomes et al., 2011; Lam et al., 2005; Scott et al., 2006) but two reported significantly fewer episodes in the intervention condition. Lam et al. (2000) found that there were significantly fewer hypomanic episodes in the CT condition compared with TAU, but no benefit of treatment over control for number of depressive or manic episodes after controlling for relevant baseline variables. Conversely, Weiss et al. (2009) found that the number of depressive episodes was reduced in the intervention condition, but not manic.

Castle et al. (2010) found significantly fewer depressive episodes in the psychoeducation condition but the number of manic episodes was less conclusive; none were reported in the treatment group compared to six in the control, whereas more hypomanic episodes were reported in the treatment group (nine versus five). Colom et al. (2003b) found fewer depressive and manic episodes in the treatment condition compared to controls, and these results were replicated in a subsequent study by Colom et al. (2009b). Reinares et al. (2008) found significantly fewer manic episodes but no significant difference between treatment and control for depressive relapse, and Smith et al. (2011) found no significant difference between groups for either depression or mania.

Again, many studies used TAU as the control condition with only one CBT study and two psychoeducational studies using an active control. Further difficulties in generalising these results arise when the definition of episode is explored, highlighting inconsistencies across studies. For example, some studies defined a bipolar episode through scores on symptom measures reaching a particular threshold (Colom et al., 2003b; Colom et al., 2009b), through applying DSM criteria (Ball et al., 2006; Castle et al., 2010; Gomes et al., 2011; Lam et al.,

2005; Scott et al., 2006; Smith et al., 2011) or by using a combination of measures, interviews and assessment tools (Lam et al., 2000; Reinares et al., 2008; Weiss et al., 2009).

Symptom severity

Twelve CBT studies, four psychoeducation studies and one MBCT study reported symptom severity scores for depression and mania.

Of the CBT studies two found beneficial effects of treatment compared to control for symptoms of both depression and mania. Lam et al. (2000) reported that once baseline ratings were controlled for the CT group showed significantly improved depression and mania symptoms and González Isasi et al. (2014) reported significant benefits of CT plus psychoeducation compared to the control condition for both mania and depression. Interestingly, these results were not found in the group's earlier study that reported no significant difference between treatment and control groups (González Isasi et al., 2010b). The later study, however, included a five-year follow-up period which suggests that the benefits of this therapy increased over time (González Isasi et al., 2014). This assertion is further evidenced by the results over this follow-up period that show, with the exception of the final data point at five-years for mania ratings, the difference in symptom severity between control and intervention groups increased and at five-year follow-up the differences in mania and depression scores between the treatment and control groups were statistically significant.

Despite the positive findings of these two CBT studies, many others reported less promising results. Ball et al. (2006) found that blind clinician ratings of depression were significantly reduced at 12-month follow-up in the intervention group compared to controls, however, clinician-reported ratings of mania and all self-reported symptom measures of both depression and mania failed to identify any beneficial effect of CT compared to TAU. Lam et al. (2005) reported the opposite pattern of results with CT not associated with improved depression ratings compared to controls at any time-point, but mania scores were significantly reduced in the treatment group at 30-month follow-up.

The majority of the remaining CBT studies found no significant differences between CBT and control conditions for either depression and mania (Jones et al., 2014; Meyer & Hautzinger, 2012; Parikh et al., 2012; Scott et al., 2006; Weiss et al., 2009). Zaretsky et al. (2008) reported no significant difference between groups on depression ratings but did not report results for mania, despite administering a mania symptom measure (CARS-M). Finally, one CBT study reported higher depression and mania scores in the treatment condition compared to the control (Weiss et al., 2007).

Three of the four psychoeducation studies found no significant differences between intervention and control (Castle et al., 2010; Sajatovic et al., 2009; Smith et al., 2011) and the remaining study found significantly reduced mania ratings in the psychoeducation group

compared to TAU, but no benefit of treatment over control for symptoms of depression (D'Souza et al., 2010).

Perich et al. (2013) reported data for MBCT compared to TAU and found no significant difference on mania or depression scores.

In studies reporting symptom severity there was high variance on both the outcome measures used and the time-points at which data was collected. For example, some studies used self-reported symptom measures (González Isasi et al., 2010b), some used clinician-rated scales (Castle et al., 2010) and others used both (Ball et al., 2006). These inconsistencies make it difficult to satisfactorily compare results of different studies using means and standard deviations.

Time in episode

Five studies reported results for time spent in bipolar episode; three CBT studies and two psychoeducational. In CBT studies, Ball et al. (2006) found no significant difference from control, but two studies found that CBT was effective at reducing time in depressive episode. Lam et al. (2005) reported that participants in the CT group spent significantly fewer days in depressive episode than controls over the 30-month study period after controlling for number of previous episodes and medication adherence, but that no significant difference was found for mania. Similarly, Zaretsky et al. (2008) found that participants in the CBT group had significantly fewer days in depressive episode than the control group. No data or results were reported on time spent in mania despite using the National Institute of Mental Health Life Chart Method (Denicoff et al., 2000), which collects daily ratings of both depression and mania.

Similarly, the psychoeducation study by Castle et al. (2010) did not report results for time spent in manic episode, only presenting data for depression showing that the treatment group spent significantly less time in depressive episodes than controls. Colom et al. (2009b), however, reported significantly less time in both depressive and manic episode in the treatment group compared to the control.

As with the other outcomes reported here there is variance between studies on the definition of this variable. For example, some studies defined an episode by self-reported symptoms (Ball et al., 2006; Zaretsky et al., 2008) whilst others measured time in which the participant fulfilled DSM criteria (Castle et al., 2010; Colom et al., 2009b), and one paper did not provide a definition (Lam et al., 2005).

STEP-BD study

The design and outcomes of the STEP-BD study (Miklowitz et al., 2007b) is different to all other included studies and, as such, the results are not reported in Table two. The study reported the effect of treatment on time to recovery from depressive episode. The results showed that participants in the intensive psychotherapy condition were more likely to recover

than those who received collaborative care (one-year recovery rate: intensive psychotherapy group, 105/163 [64.4%]; collaborative care group, 67/130 [51.5%]; $p=0.01$). When type of intensive psychotherapy was considered there was a main effect of treatment type ($p=0.046$) but when pairwise comparisons of the three treatment types were conducted using an intention-to-treat sample, no significant differences were found. Miklowitz et al. (2007b) suggested that this may have been due to the study being underpowered or to the commonalities of psychological interventions. Results for the proportion of the sample classified as well across the 12-month duration of the study showed that participants in the intensive psychotherapy condition were more likely to be well at any time-point than those in the collaborative care group ($p=0.003$). The differences in baseline participant characteristics and outcome variables and the lack of results for mania make these results difficult to compare with other studies.

Quality ratings

The methodological quality of included studies was rated using the POMRF system. This was previously employed by Swain et al. (2013) who defined quality categories in relation to distance from the overall mean score of studies in their review. Using this approach the overall mean POMRF score in the current review was calculated as 21.59 ($SD=3.86$) and scores ranged from 14 to 28. Scores within one standard deviation of this mean were rated as ‘below average’ (17.73-21.58) or ‘above average’ (21.60-25.45) and those more than one standard deviation from the mean were rated as ‘well below average’ (0-17.72) or ‘well above average’ (25.46 and above). POMRF total ratings are presented in Table one and raw scores are reported in Appendix C.

The ratings of quality of included studies highlighted some important methodological flaws. For example, 15 of the 22 included studies reported no power calculation, 15 did not provide details of the training provided for assessors of outcome variables and in all but three studies the number of therapy hours in the control and treatment conditions differed ‘markedly’ according to the rating system. When studies investigating CBT and psychoeducation were grouped together and mean quality scores were calculated the results showed both groups were in the below average range with 20.62 and 19.71 respectively. The one MBCT study was in the above average range and the STEP-BD study fell in the below average range. Quality was also reviewed for the studies reporting data for different outcomes to investigate the generalizability and reliability of the results.

Table one. Characteristics of included studies.

Study	<i>n</i> , Mean age, Location, Gender (% female)	Inclusion criteria and baseline mood	Treatment intervention	Control intervention	Treatment length	Follow- up length (from treatment end)	POMRF score	POMRF rating
Ball et al. (2006)	<i>n</i> =52 Exp group: 41.56, control: 42.52 Australia 57.7%	Euthymic (BDI ≤30, HDRS ≤15, YMRS ≤20) with one or more bipolar episodes in previous 18 months	Individual CT	TAU	20 weekly one-hour sessions	1 year	24	Above average
Castle et al. (2010)	<i>n</i> =84, Exp group: 41.6, control: 42.6 Australia 76.2%	Not in an acute episode (DSM-IV-TR)	Group psychosocial intervention (psychoeducation)	TAU + weekly phone calls	12 weekly sessions + 3 monthly booster sessions	1 year	21	Below average
Colom et al. (2003b)	<i>n</i> =50 Exp group: 35.36, control 34.48 Spain 62%	Euthymic (YMRS<6, HDRS<8) with six months 'good' treatment compliance	Group psychoeducation	Support group	20 weekly 90minute sessions	2 years	23	Above average
Colom et al. (2009b)	<i>n</i> =99 Exp group: 34.03, control: 34.26 Spain 63.3%	Euthymic (YMRS<6, HDRS<8) with six months 'good' treatment compliance	Group psycho-education	Support group	21 weekly 90minute sessions	5 years	24	Above average
D'Souza et al. (2010)	<i>n</i> =58 Exp group: 40.7, control: 39.5 Australia 48.3%	Recently remitted (YMRS<10, MADRS<8), discharged from hospital within one month	Group psychoeducation for patient and companion	TAU	12 weekly 90minute sessions	60 weeks	18	Below average
Gomes et al. (2011)	<i>n</i> =50 Exp group: 41*, control: 36* Brazil 76%	Euthymic (YMRS<6, HDRS<8)	Group CBT	TAU	18 90minute sessions	1-2 years	18	Below average
González Isasi et al. (2010b)	<i>n</i> =20 38.5	Euthymic (not defined), minimum 2 years post-	Group psycho-education and CBT	TAU	13 weekly 90minute	1 year	22	Above average

Study	<i>n</i> , Mean age, Location, Gender (% female)	Inclusion criteria and baseline mood	Treatment intervention	Control intervention	Treatment length	Follow- up length (from treatment end)	POMRF score	POMRF rating
	Spain 70%	diagnosis, 'severe course' (≥ 2 episodes in past 12months, suicide attempts, persistent symptoms)			sessions			
González Isasi et al. (2014)	<i>n</i> =40 41.3 Spain 47.5%	Euthymic (BDI>7, YMRS>6), minimum 2 years post-diagnosis, 'severe course' (≥ 2 episodes in past 12months, suicide attempts, persistent symptoms)	Group psychoeducation and CBT	Pharmacology with monthly reviews	20 weekly 90minute sessions	5 years	18	Below average
Jones et al. (2014)	<i>n</i> =67 Exp group: 38.3, control: 39.9 UK 70.1%	Recent-onset (≤ 5 years previously), not in episode for minimum 4 weeks previously (DSM-IV)	Individual recovery-focused CBT	TAU	Up to 18 hours in 6months	15 months	20	Below average
Lam et al. (2000)	<i>n</i> =25 39 UK 52%	Not in acute episode (BDI<30, BRMAS<9), 'vulnerable' subgroup (≥ 2 episodes in past 2 years or 3 in past 5 years)	Individual CT	TAU	12 – 20 sessions within 6months	6 months	20	Below average
Lam et al. (2005)	<i>n</i> =103 Exp group: 41.5, control: 46.4 UK 56.3%	Not actively suicidal (BDI suicide item score of 3) or fulfilling substance use disorder criteria (DSM-IV), 'vulnerable' subgroup (≥ 2 episodes in past 2 years or 3 in past 5 years)	Individual CT	Pharmacology and review	12-18 sessions in 6months + 2 booster sessions in second 6months	2 years	22	Above average
Meyer and Hautzinger (2012)	<i>n</i> =76 Exp group: 44.4, control: 43.5 Germany 50%	Not currently in major affective episode (SCID-I or BRMS>14 or BRMAS>9)	Individual CBT	Individual supportive therapy	20 sessions over 9 months	2 years	28	Well above average
Miklowitz et al. (2007b)	<i>n</i> =293 40.13	Currently in major depressive episode, not mixed	Individual CBT/IPSRT/FFT +	Collaborative care – psychoeducation +	Maximum of 30 sessions over 9	3 months	18	Below average

Study	<i>n</i> , Mean age, Location, Gender (% female)	Inclusion criteria and baseline mood	Treatment intervention	Control intervention	Treatment length	Follow- up length (from treatment end)	POMRF score	POMRF rating
	USA 59%	episode/depression not otherwise specified (DSM-IV)	pharmacology	pharmacology	months			
Parikh et al. (2012)	<i>n</i> =204 Exp group: 40.9, control: 40.9 Canada 57.8%	Not in episode for preceding month (DSM-IV), ≥ 2 episodes in past 3 years	Individual CBT	Group psychoeducation	20 weekly sessions	1 year	28	Well above average
Perich et al. (2013)	<i>n</i> =95 Not reported Australia 65.3%	Not currently in major depressive or manic episode (DSM-IV), ≥ 1 episode in past 18 months and ≥ 3 in lifetime	Group MBCT	TAU + weekly psychoeducation hand- outs	8 weekly sessions	1 year	26	Well above average
Reinares et al. (2008)	<i>n</i> =113 Exp group: 33, control: 35 Spain 54%	Euthymic (HDRS<9, YRMS<7) for 3 months prior to study	Group caregiver psychoeducation	No intervention	12 weekly 90minute sessions	1 year	18	Below average
Sajatovic et al. (2009)	<i>n</i> =164 Exp group: 41, control:40 USA 68.3%	‘Real-world’ sample: minimal exclusion criteria (inability to provide informed consent and/or to be rated on psychiatric scales)	Group psychoeducation, symptom management and problem solving	Pharmacology, psychosocial therapy, counselling + social services/case management	6 weekly sessions	1 year	20	Below average
Scott et al. (2006)	<i>n</i> =253 Exp group: 39.7, control: 42.7 UK 64.8%	At least 2 episodes in lifetime and at least 1 in last 12 months (DSM-IV)	Individual CBT	TAU	20 sessions over 26 weeks + 2 booster sessions (38 weeks in total)	34 weeks (after final booster)	25	Above average
Smith et al. (2011)	<i>n</i> =50 Exp group: 42.7, control: 44.7 UK 62%	Remitted (DSM-IV, MADRS score ≤ 10, YMRS ≤ 8)	Individual web-based psychoeducation	TAU	4 months	6 months	14	Well below average
Weiss et al. (2007)	<i>n</i> =62 41.9	Diagnosis of BD and substance dependence (DSM-IV), recent	Group CBT relapse prevention for bipolar	Group drug counselling	20 weeks	3 months	26	Well above

Study	<i>n</i> , Mean age, Location, Gender (% female)	Inclusion criteria and baseline mood	Treatment intervention	Control intervention	Treatment length	Follow- up length (from treatment end)	POMRF score	POMRF rating
	USA 51.6%	substance use (in past 60 days)	and substance dependence					average
Weiss et al. (2009)	<i>n</i> =61 38.3 USA 41%	Diagnosis of BD and substance dependence (DSM-IV), recent substance use (in past 60 days)	Group CBT relapse prevention for bipolar and substance dependence	Group drug counselling	12 weeks	3 months	26	Well above average
Zaretsky et al. (2008)	<i>n</i> =79 40.7 Canada Not reported	Not currently in 'full episode' (not defined)	Individual CBT + psychoeducation	Individual psychoeducation (7 weeks)	20 weeks	1 year	16	Well below average

*Age reported as median value

Note: CBT = Cognitive Behavioural Therapy, CT = Cognitive Therapy, Exp = experimental, FFT = Family Focused Therapy, IPSRT = Interpersonal Social Rhythm Therapy, MBCT = Mindfulness-Based Cognitive Therapy, TAU = Treatment As Usual

Measures: BDI = Beck Depression Inventory (Beck, Steer, & Brown, 1996), BRMAS = Bech-Rafaelsen Mania Rating Scale (Bech, Rafaelsen, Kramp, & Bolwig, 1978), BRMS = Bech-Rafaelsen Melancholia Scale (Bech & Rafaelsen, 1980), HDRS = Hamilton Depression Rating Scale (Hamilton, 1960), MADRS = Montgomery-Asberg Depression Rating Scale (Snaith, Harrop, Newby, & Teale, 1986), SCID-I = Structured Clinical Interview for DSM-IV Disorders (First, Spitzer, Gibbon, & Williams, 1995), YMRS = Young Mania Rating Scale (Young, Biggs, Ziegler, & Meyer, 1978)

Table two. Results showing differential effect of intervention on depression and mania

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Dep	Man	Dep	Man	Dep	Man	Dep	Man
CBT								
Ball et al. (2006)	-	-	-	-	*	-	-	-
Gomes et al. (2011)	-	-	-	-				
González Isasi et al. (2010b)					-	-		
González Isasi et al. (2014)					*	*		
Jones et al. (2014)	*	*			-	-		
Lam et al. (2000)			-	*	*	*		
Lam et al. (2005)	*	-	-	-	-	*	*	-
Meyer and Hautzinger (2012)	-	-			-	-		
Parikh et al. (2012)	-	-			-	-		
Scott et al. (2006)			-	-	-	-		
Weiss et al. (2007)					X	X		
Weiss et al. (2009)			*	-	-	-		
Zaretsky et al. (2008)					-		*	
Psychoeducation								
Castle et al. (2010)	*	*	*	*	-	-	*	
Colom et al. (2003b)			*	*				
Colom et al. (2009b)			*	*			*	*
D'Souza et al. (2010)					-	*		
Reinares et al. (2008)	-	*	-	*				
Sajatovic et al. (2009)					-	-		
Smith et al. (2011)			-	-	-	-		
MBCT								
Perich et al. (2013)	-	-			-	-		

Note: Dep=depression, Man=mania, * indicates a significant positive effect of intervention compared to control, - indicates no difference between intervention and control, X represents a significant negative effect of intervention compared to control. Cells with a dark grey background indicate differential effects of intervention on depression and mania within studies. Cells with a light grey background indicate missing data.

Discussion

This review sought to consider the effects of different psychological interventions for BD on depression and mania as reported in studies with a follow-up period. Previous reviews have found some evidence to suggest that different interventions have differential effects on depression and mania (Scott & Gutierrez, 2004) but a comprehensive review of the literature with this focus was lacking.

Table two highlights the difficulties in addressing the central question of this review including the inconsistency of results, both within and between treatment approaches and outcomes, and the disparity between studies regarding the outcome variables reported. These issues prevent definitive conclusions from being drawn and raise questions about the basis of the preliminary conclusions related to the effects of therapy on depression and mania made by Miklowitz (2008).

Studies that were predominately CBT-based were considered together and the results showed that, although there were some positive findings, the majority of studies found no significant difference between CBT and a control condition for a range of outcomes and for both depression and mania. Furthermore, there are caveats to some of the positive findings presented in Table two. For example, Ball et al. (2006) reported that depressive symptoms were significantly improved in the CT group. However, this was based on one outcome measure whereas no significant difference was found between groups on three other measures of depression. Lam et al. (2000) reported a positive effect of CT on the number of hypomanic episodes, but this did not apply to episodes of mania after controlling for baseline variables. The findings suggest that CBT is not associated with consistent and convincing benefits for individuals with BD when considering the effect on outcomes relating to depression and mania.

There were fewer studies that investigated psychoeducational interventions for BD and, as with the studies of CBT, results were inconsistent across outcomes and symptoms. Almost all of the studies that reported symptom severity as an outcome found no difference between psychoeducation and control condition for both depression and mania - with just one study (D'Souza et al., 2010) finding a positive benefit over control condition for ratings of mania. However, more convincing were the results relating to number of bipolar episodes. Psychoeducation was associated with fewer episodes of depression and mania compared to control conditions in the majority of studies. These results may be a reflection of the effect of psychoeducation that teaches participants about relapse and aids its prevention, but may not be effective in reducing the experience of the symptoms of depression and mania.

MBCT was investigated in one study (Perich et al., 2013) and the results do not support the use of MBCT in the treatment of depression and mania in BD.

The STEP-BD study (Miklowitz et al., 2007b) was not easily incorporated into this review due to its different focus and choice of outcome variables. However, the results are interesting as they show that intensive psychotherapy was beneficial for participants recovering from a major depressive episode irrelevant of the type of therapy received (CBT, IPSRT, FFT). However, the control condition included only three sessions of psychoeducation; a control intervention of equal length and intensity to those delivered in the treatment condition would have allowed for more meaningful comparison. (This was also a limitation of other included studies.)

This review highlights the inconsistent results of studies in this area and allows for consideration of some other interesting findings. The lack of theoretical models of BD identified in previous reviews, together with inconsistencies in the results of studies included in the current review, led to closer examination of the conceptual underpinnings of the interventions delivered. Although many studies used published protocols and manuals, it appears that none of the interventions were based upon a validated, disorder-specific model of BD. Furthermore, there seems to be significant overlap between different interventions; with the exception of the 'Barcelona Bipolar Disorder Programme' used in some studies (Colom et al., 2009b; D'Souza et al., 2010; Reinares et al., 2008), the psychoeducational interventions all provided elements of CBT, and the CBT interventions included some aspects of psychoeducation. Perhaps this is unsurprising given the reliance on theories borrowed from generic mental health and chronic physical ill health. Considering the inconsistent results of these interventions across a range of outcomes, which were often no different to control conditions, and the profoundly disruptive effect of BD upon individuals with this diagnosis, it seems important that future research into the treatment of BD has disorder-specific theoretical underpinnings.

One such disorder-specific conceptual model is the integrative cognitive model (Mansell, Morrison, Reid, Lowens, & Tai, 2007). This theoretical framework places central importance on the interpretations made by the individual on changes in internal states. It suggests that the nature of such interpretations will determine the behaviours and strategies that the individual uses in an attempt to exert control over their internal state and to self-regulate. However, these strategies and behaviours can form part of a vicious cycle of altered internal state, misinterpretation, strategies to attempt to self-regulate or exert control and further changes to internal state.

This model has been validated in studies that have seen a distinction in the types of appraisals and beliefs held in regards to changes in internal state between groups of participants with BD, unipolar depression and non-clinical controls (Mansell & Jones, 2006; Mansell et al., 2011). Based upon this model a CBT intervention was developed and described by Mansell (2007). This therapy seeks to help the individual with BD to develop insight into the extreme personal appraisals of changes in internal state and to find strategies to counter ascent and

descent behaviours. A case series using this therapy (Think Effectively About Mood Swings; TEAMS) was conducted and found promising initial results with some indication that the intervention had a greater effect on symptoms of depression (Searson, Mansell, Lowens, & Tai, 2012). The small sample size and lack of a control condition prevented strong conclusions being made but this study has been followed by the publication of a trial protocol for a larger RCT of the TEAMS intervention (Mansell et al., 2014). The group have considered appropriate outcome variables and, rather than focusing only on preventing relapse, which they argue has been found to be just one part of a patient's view of recovery, they will focus on the things described by the individual as maintaining their difficulties. As such the study will assess the severity of mania and depression, anxiety, thinking styles and social functioning.

This review also highlights the diversity of outcome variables explored in studies in this field, and the lack of consensus on what constitutes a successful outcome for individuals with BD. For example, should interventions be striving to 'cure' a patient of BD, with no subsequent relapse or symptoms of depression or mania? Or instead are there variables that would increase quality of life for those with BD, for example, reducing length of time in episode and the severity of depression and mania when relapse occurs? There are several other outcomes that have not been reported in this review including social functioning, quality of life, medication adherence and days spent in hospital, each with its own complexities and confusions around what represents a positive result. For example, some studies reported medication adherence and considered consistent blood plasma levels to be a positive outcome. However, the reasons for this are unclear; stable plasma levels may indicate increased insight into BD but could also represent increased motivation due to deterioration in symptoms, and conversely, poor adherence could indicate an individual feeling more able to manage their symptoms without pharmacology. The wide range of outcomes explored in different studies leads to difficulties in drawing conclusions about the effectiveness of different interventions both within and between studies.

Limitations

The main psychological therapies explored in the published literature are CBT, psychoeducation, IPSRT and FFT. Unfortunately, with the exception of the STEP-BD study (Miklowitz et al., 2007b), the studies included in this review only investigated CBT and psychoeducation. The majority of studies exploring IPSRT and FFT were excluded due to the use of diagnostic criteria other than DSM-IV or ICD-10 and/or the lack of a follow-up period. Although the robust criteria for included studies is a strength it has resulted in a narrower range of interventions being compared and, as such, conclusions about the effectiveness of other interventions cannot be made.

The outcome variables in this review were selected because it was possible for studies to report results separately for depression and mania. However, this has resulted in several other important outcomes being omitted (i.e. social functioning) and this may have led to an inaccurate view of the effectiveness of different interventions overall.

A further difficulty arises when baseline participant characteristics are considered with some studies recruiting those currently in episode, others requiring individuals to have been euthymic for a period of time prior to the study and others making efforts to gain a representative sample through minimal exclusion criteria. These differences further complicate the interpretation of results.

Finally, the overall quality of studies included in this review was variable and the quality rating process highlighted some significant methodological flaws, raising further doubts about the generalizability and reliability of results of studies in this field.

Clinical implications

This review highlights some of the complicating factors for clinicians and patients in identifying the most appropriate intervention for BD. Unfortunately it has not been possible to provide definitive conclusions regarding the most effective intervention for depression and mania. The inconsistencies in results despite many studies employing similar interventions adds to the rationale for further research about the phenomenology of BD and may support the theory that, contrary to popular conceptualisations of bipolar depression and mania being opposite ends of a spectrum, depression and mania are dissociable processes (Johnson et al., 2011; Pavlickova et al., 2013). This theory may explain why treatment for unipolar depression (i.e. CBT) or psychoeducation does not appear to be consistently effective. According to the integrative cognitive model (Mansell et al., 2007) bipolar depression may be at least partly influenced by the individual's avoidance of mania; in trying to avoid the potentially devastating effects of a manic episode individuals may become hypervigilant for signs of hypomania and take efforts to avoid ascent in mood, such as social withdrawal, that could conceivably contribute to low mood. Treatments of unipolar depression, therefore, may not have a good effect unless the underlying negative appraisals about mania are addressed; something that does not appear to be included in the intervention protocols reported here. Furthermore, psychoeducation emphasises the importance of recognising manic prodromes and the development of skills to avoid mania, an intervention that could arguably reinforce the individual's negative beliefs and appraisals about mania. Similarly, negative appraisals about depression could lead the individual to employ strategies that might contribute to symptoms of mania, and psychological interventions that focus on avoiding low mood could serve to reinforce negative appraisals of depressive prodromes.

Future research directions

There are several obvious areas for future research, primarily the development of interventions based upon validated disorder-specific theoretical models. More recent and current studies of widely used interventions, such as IPSRT and FFT, should be conducted as the outdated diagnostic screens employed in many studies prevented their inclusion in this review. Consideration and research should be focused on determining the most appropriate outcome variables and this should be centred on those things identified by individuals with BD as being meaningful goals of treatment.

Conclusions

Over a decade ago Jones (2004) reviewed the evidence for psychotherapy of BD and outlined some important considerations for future research into effective treatments. These included the need for standardised outcome measurement, for treatment approaches to be based upon theoretical models and for the differential effects of treatment on depression and mania to be further explored. Although some studies and reviews have made some progress in addressing these issues it seems that these recommendations are as pertinent now as they were in 2004.

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Service improvement project

A trans-diagnostic cognitive behaviour therapy group in a secondary care mental health service.

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Journal submission

This review will be submitted to *the Cognitive Behaviour Therapist*. This journal was selected because it publishes articles detailing examples of clinical practice for disseminate to clinicians and this project seemed particularly relevant for this audience (Appendix P).

Introduction

This service improvement project aimed to evaluate the effectiveness of a trans-diagnostic CBT group held within a secondary care mental health service by analysing data available for the group and comparing the results to the published literature in this field. A model of improvement was used as a framework for the project as shown in Figure one (Langley et al., 2009). This model details stages for improving an aspect of a service, including the development of clear goals, considering how positive outcomes can be demonstrated and identifying the most appropriate changes that can be made. These stages then lead into more specific change processes based on the Plan-Do-Study-Act (PDSA) cycle. A plan is developed in order to meet the specific objectives of the project and consideration is given to what data that is necessary to illustrate change. This plan is then employed and the results are analysed and evaluated, informing the development of subsequent PDSA cycles.

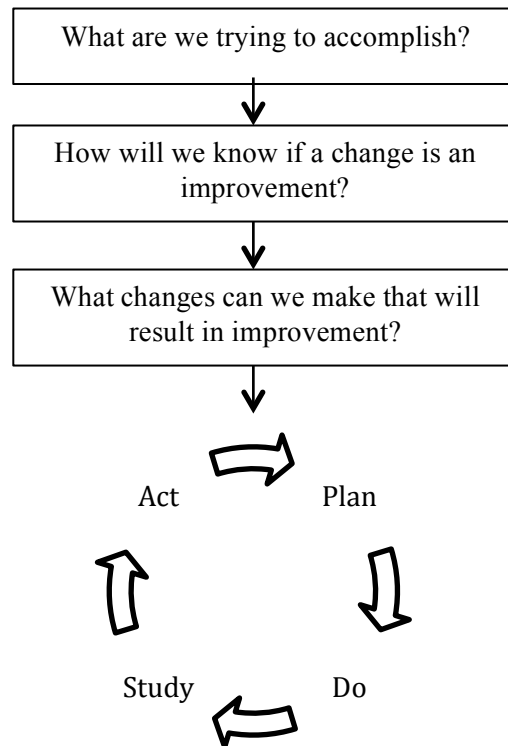


Figure one. Model for improvement including the PDSA cycle.

The decision to use this model of improvement was made to ensure that the original questions asked by the service were answered in a systematic manner. The first part of the project comprises of an evaluation of the group, informed by literature in this field, and some recommendations for changes to improve the effectiveness of the group. The second part of the project forms a PDSA cycle in which the findings of the evaluation and the recommendations were implemented.

Part one: model for improvement

What were we trying to accomplish?

A secondary care mental health service wanted to know whether or not the trans-diagnostic CBT group that they deliver is an effective treatment. They also wanted to improve the outcomes for the service users attending.

How would we know that a change was an improvement?

The literature on trans-diagnostic CBT groups was reviewed and the results from the group in question were compared to those in the published research.

What changes were made?

Based upon the literature review and the evaluation of the group, recommendations were made with the aim of improving the effectiveness of the group.

The state of the evidence: a literature review

Cognitive Behaviour Therapy (CBT) is the first line treatment for a range of different psychological problems including depression (NICE, 2009), generalised anxiety disorder, panic and agoraphobia (NICE, 2011), schizophrenia (NICE, 2013) and eating disorders (NICE, 2004). There is growing evidence that this is, in part, due to common processes across disorders (Mansell et al., 2008). Mansell et al. (2008) outline the advantages of a trans-diagnostic approach, stating that it can help to explain co-morbidity of problems; it can allow theories and understanding of particular problems to be generalised to others, and it can potentially inform trans-diagnostic interventions.

There are several practical applications to trans-diagnostic interventions. Interventions that are less disorder-specific and instead focus on common processes would allow treatment to be offered in a group format to a large number of people reducing both costs and waiting times. Rather than either receiving individual psychological intervention or waiting for sufficient numbers with similar problems to justify a group intervention, trans-diagnostic group interventions would allow therapists to treat greater numbers and sooner. It is also possible that overall treatment duration would be reduced because, unlike traditional interventions that typically target the primary diagnosis before moving on to remaining difficulties, the trans-diagnostic approach would employ a more global focus. However, this hypothesis requires further investigation.

There is now a substantial body of literature exploring the utility of the trans-diagnostic approach. However, the majority of this research refers to trans-diagnostic anxiety interventions

and excludes non-anxiety diagnoses. Norton and Hope (2005) reported one of the first such studies in which 19 participants with anxiety disorders were randomly assigned to either a trans-diagnostic CBT group or wait-list control. Those who received the CBT intervention showed significantly greater improvement in symptom severity and on idiographic fear and avoidance hierarchies. However, no significant differences were observed on self-reported anxiety symptoms.

Following this initial study Norton (2008) explored the effect of diagnosis on outcome using a sample of 52 participants with anxiety disorders. Although the author acknowledges that the study may be underpowered, the results showed no differential effect of diagnosis on treatment outcome with significant decreases in anxiety scores across disorders and a large effect size ($d=1.06$). Interestingly, those with higher severity scores at pre-treatment showed the biggest improvement, suggesting that an upper cut-off for severity in the inclusion criteria for such groups may not be necessary.

Erickson et al. (2007) randomised a larger sample ($n=152$) with anxiety disorders to either a trans-diagnostic CBT group or a wait-list control. Unlike Norton and colleagues, who focused on common processes across anxiety disorders, Erickson et al. (2007) also addressed some disorder-specific features. The results showed a significant decrease in anxiety scores with a medium effect size ($d=0.5$). Although the effect was substantial, it was smaller than that expected of disorder-specific treatments and those found in subsequent studies of trans-diagnostic group CBT (Norton, 2008). The authors suggest that perhaps too much information was presented and too many skills were discussed and refer to the treatment protocol outlined by Norton and Hope (2008) as being a more selective approach in terms of skills presented that nonetheless obtained good results.

More recently research has been conducted using an alternative intervention for the control condition instead of a waiting-list sample. Norton (2012) compared trans-diagnostic CBT group intervention with relaxation training. The efficacy of the two groups was broadly equal but the attrition rate for the CBT group was significantly lower than that of the relaxation group. Furthermore, the results showed that the efficacy of the trans-diagnostic CBT group was comparable to that of disorder-specific protocols ($d=1.43$). No differential effect of diagnosis on treatment outcome was found, further supporting the use of a trans-diagnostic approach. Norton and Barrera (2012) randomised participants with panic disorder, social anxiety disorder or generalised anxiety disorder to either trans-diagnostic CBT group intervention or disorder-specific group treatment. They concluded that there were no significant differences in terms of efficacy of the two interventions and highlighted the substantially reduced waiting times for the trans-diagnostic treatment.

Research has also investigated the effect of trans-diagnostic CBT groups on comorbid diagnoses. Data reported by Norton and Hope (2005) was analysed further to investigate the

effect of the treatment on secondary symptoms of depression (Norton et al., 2004). The results showed that participants in the treatment condition showed a significantly greater reduction in depressive symptoms compared to the wait-list control. These findings were supported by those of Mohammadi, Birashk and Gharaie (2013) who demonstrated significant reductions in anxiety and depression over the duration of a trans-diagnostic CBT group, albeit with a non-clinical sample of undergraduate students with symptoms of anxiety and depression. More convincingly, Norton et al. (2013) analysed data from three earlier studies to investigate the effect of the trans-diagnostic treatment protocol on comorbid symptoms; predominantly secondary anxiety disorders and affective disorders. They found that around two thirds of participants with at least one comorbid diagnosis did not meet the criteria for a clinically severe secondary diagnosis at the end of treatment and this effect was not dependent on secondary diagnosis type. Furthermore, the authors found that this effect was larger than that found in disorder-specific CBT treatments for anxiety, although no effect sizes were reported.

Larsen-Barr and Glynn Owens (2013) conducted a similar study but included comorbid psychosis in their sample. The group provided support and psycho-education and was based upon the theory that negative affectivity, which is defined as the tendency to experience emotions more quickly and more intensely, may be present across disorders. Despite a very small sample size ($n=9$) and no statistically significant conclusions being drawn, the authors suggest that the group was beneficial to individuals irrelevant of diagnosis including those with a schizophrenia spectrum disorder.

Despite the extension of research to comorbid problems there is a scarcity of studies directly assessing the efficacy of trans-diagnostic groups for other diagnoses. However, it seems that this is an emerging area of research. Kristjánsdóttir et al. (In review) investigated the efficacy of a trans-diagnostic CBT group in Iceland for patients with depressive and/or anxiety disorders and used specific as well as generic outcome measures to explore differential effects according to diagnosis. They found comparable results on specific outcome measures to those found in IAPT services in England and concluded that although the study may be limited due to power considerations, these preliminary findings support the case for extending the inclusion criteria for trans-diagnostic groups from solely anxiety diagnoses.

In their meta-analysis of trans-diagnostic group interventions for anxiety disorders Norton and Philipp (2008) found the large effect sizes for pre- to post-treatment improvement ($d=1.29$) to be comparable with studies of disorder-specific protocols ($d=1.58$). (Although the authors advised cautious interpretation of the results as the evidence for disorder-specific treatment is, to date, more rigorously controlled than that of trans-diagnostic intervention.) Since this review was published some studies have begun to explore the use of trans-diagnostic group intervention for non-anxiety diagnoses. However, there is currently only a clear evidence-based grounding for such intervention in the treatment of anxiety disorders.

Evaluation of the trans-diagnostic CBT group

Method

Participants

Participants were adults under the care of a secondary care mental health team and as such were experiencing significant mental health difficulties requiring multi-disciplinary professional support. Participants were referred to the group by a clinician in the team and were then assessed by a group facilitator. Inclusion criteria were that the group facilitator judged that the individual was motivated to engage and able to commit to regular attendance.

A total of 56 participants started the group between 2010 and 2013 in five cohorts and data were routinely collected by the group facilitators. Participant characteristics are displayed in Table one. Data were missing for five participants who were therefore excluded from analysis. In total there were sufficient data for analysis of 51 participants, 31 of whom were female. No data on age or ethnicity were collected. Participants were categorised into diagnosis type based on their primary diagnosis which was obtained from the referral form, patient notes or during the assessment. The first diagnosis listed in the results database was considered the primary diagnosis. Diagnoses were divided into three categories; anxiety disorder, depressive disorder or psychotic disorder (including bipolar disorder) and represented 5.9%, 64.7% and 29.4% of the sample respectively. Comorbidities were recorded in 19.6% of participants.

Measures

The following outcome measures were administered at pre-group individual sessions and during session 12.

Clinical Outcomes in Routine Evaluation-10 (CORE-10; Evans et al., 2000)

The CORE-10 is a short self-report measure of general subjective clinical outcome including wellbeing, symptoms, general functioning and risk to self or others. The CORE-10 has been shown to be a valid and reliable measure that is sensitive to change (Evans et al., 2000) and can be used across different settings and professions (Evans et al., 2002) and disorders (Barkham et al., 2013).

Work and Social Adjustment Scale (WSAS; Mundt et al., 2002).

The WSAS is a five-item self-report measure of functional impairment that has been demonstrated as a reliable and valid tool for research. It has been validated with various

disorders including depression, OCD (Mundt et al., 2002) and phobic disorders (Mataix-Cols et al., 2005).

Table one: Baseline participant characteristics

Cohort	1	2	3	4	5	Total
<i>Excluded due to missing data, n</i>	<i>1</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>5</i>
<i>n</i>	11	11	10	11	8	51
Female, <i>n</i> (%)	8 (72.7)	7 (63.6)	6 (60)	7 (63.6)	3 (37.5)	31 (60.8)
Primary diagnosis: anxiety disorder, <i>n</i> (%)	2 (18.2)	0 (0)	0 (0)	1 (9.1)	0 (0)	3 (5.9)
Primary diagnosis: affective disorder, <i>n</i> (%)	7 (63.6)	6 (54.5)	8 (80)	7 (63.6)	5 (62.5)	33 (64.7)
Primary diagnosis: psychotic disorder, <i>n</i> (%)	2 (18.2)	5 (45.5)	2 (20)	3 (27.3)	3 (37.5)	15 (29.4)
Comorbid diagnosis, <i>n</i> (%)	4 (36.4)	3 (27.3)	1 (10)	2 (18.2)	0 (0)	10 (19.6)
Attrition, <i>n</i> (%)	1 (9.1)	2 (18.2)	4 (40)	2 (18.2)	0 (0%)	9 (17.6)
CORE-10 Pre-group, mean (SD)	20.66 (8.64)	23.64 (6.76)	25.2 (7.5)	21.73 (10.13)	23.63 (9.81)	22.88 (8.42)
WSAS Pre-group, mean (SD)	25.09 (7.4)	23.91 (6.56)	25.8 (7.63)	26.18 (8.93)	24.38 (7.8)	25.1 (7.43)

Procedure

A CBT-therapist and a clinical psychologist designed the group structure and content. Treatment consisted of 12-weekly one and a half hour sessions with a booster session delivered four weeks after session 12. Each participant was also offered three one-hour individual sessions. The group and individual sessions were facilitated by clinical psychologists, nurses, social workers and occupational therapists with supervision provided by a clinical psychologist on a monthly basis. The group format and session content are displayed in Appendix E.

The first individual session was held before the start of the group and provided participants with information about the group and individual requirements such as homework. Pre-group outcome measures were completed at this point. Two further individual sessions were held between sessions three and four and six and nine, and offered support in developing and applying the skills introduced in the group, as well as problem-solving any difficulties that arose.

Results

Attrition

Nine participants (17.6%) did not complete the group programme. Rates of attrition did not differ for gender (Fisher's exact test yields $p=0.223$ indicating no difference) or primary diagnosis type ($\chi^2_{(2)}=0.71$, $n=51$, $p=0.702$).

Further analysis of pre-group outcome measure scores indicated no significant differences between those who completed the group (CORE-10; $M=22.45$, $SD=8.45$, WSAS; $M=24.60$, $SD=7.51$) and those who did not (CORE-10; $M=24.89$, $SD=8.43$, WSAS; $M=27.44$, $SD=6.98$); CORE-10; $t_{[49]}=0.79$, $p=0.436$, WSAS; $t_{[49]}=1.05$, $p=0.301$). This was also reflected in the descriptive statistics of clinical cut-offs on both the CORE-10 and WSAS¹. 100% of participants who did not complete the group met the clinical cut-off for both the CORE-10 and WSAS whilst of participants who completed the group the clinical cut-off was met by 92.5% for the CORE-10 and 100% for the WSAS.

Treatment efficacy

The pre- and post-group scores for outcomes measures are shown in Figure two. A paired samples t -test was conducted on CORE-10 scores of completers ($n=42$) at pre-group ($M=22.45$, 95% CI=19.9-25.0, $SD=8.45$) and post-group ($M=14.92$, 95% CI=13.51-16.33, $SD=7.68$) and found a significant decrease at the end of the group ($M=7.52$, 95% CI=4.5-10.54, $SD=9.96$); $t_{[41]}=4.9$, $p<0.001$). This represents a large effect size (Cohen's $d=0.93$), indicating that over the course of the group distress experienced by participants significantly improved.

A significant decrease ($M=8.0$, 95% CI=5.9-10.1, $SD=6.92$) was also found between WSAS scores at pre-group ($M=24.6$, 95% CI=22.33-26.87, $SD=7.51$) and post-group ($M=16.6$, 95% CI=14.37-18.83, $SD=7.4$); $t_{[41]}=7.49$, $p<0.001$, with a large effect size (Cohen's $d=1.07$). This indicates that the social functioning of participants was significantly improved at the end of the group.

¹ Clinical cut-off for the CORE-10 and WSAS was a score of 10 or more.

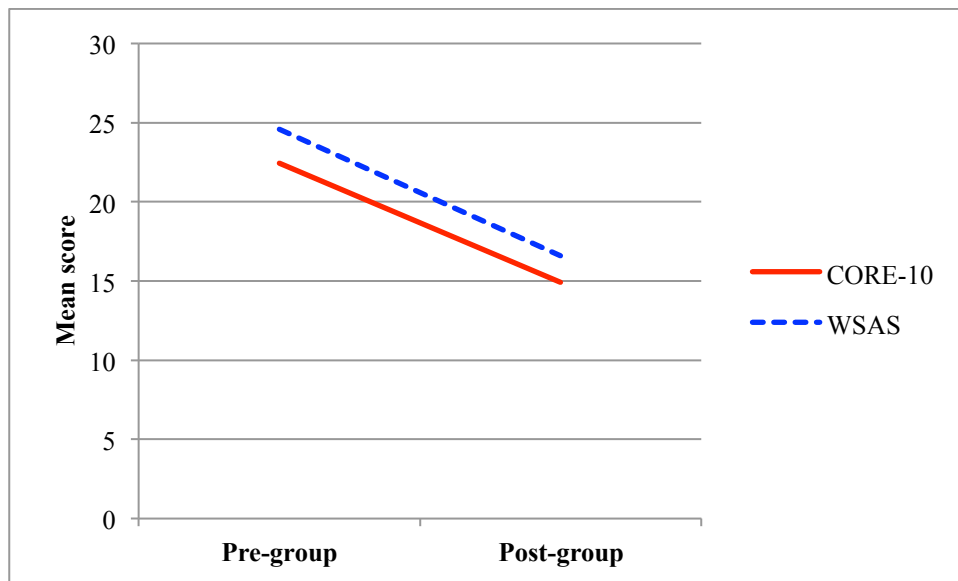


Figure two. Mean pre- and post-group outcome measure scores.

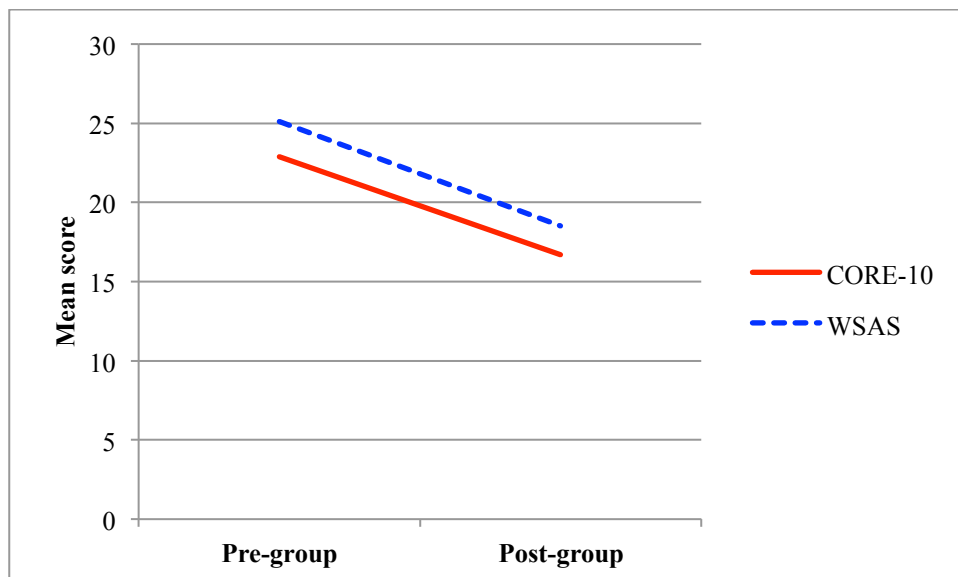


Figure three. Mean pre- and post-group outcome measures including pre-group scores carried forward for intention to treat analysis.

An intention to treat analysis was also conducted with pre-group scores carried forward for participants who did not complete included ($n=51$). Results are displayed in Figure three. A paired-samples t -test found the significant decrease in CORE-10 scores remained with the inclusion of these participants (pre-group; $M=22.88$, 95% CI=20.53-25.23, $SD=8.42$, post-group; $M=16.69$, 95% CI=14.32-19.06, $SD=8.63$, difference; $M=6.20$, 95% CI=3.59-8.81, $SD=9.47$); $t_{[50]}=4.68$, $p<0.001$, $d=0.73$, as well as for WSAS scores (pre-group; $M=25.10$, 95% CI=23.06-27.14, $SD=7.43$, post-group; $M=18.51$, 95% CI=16.22-20.8, $SD=8.37$, difference; $M=6.59$, 95% CI=4.67-8.51, $SD=6.99$); $t_{[50]}=6.74$, $p<0.001$, $d=0.83$).

One-way between-subjects ANOVAs were conducted to investigate the effect of diagnosis on pre-group CORE-10 and WSAS scores of completers. At the $p<0.05$ level there was not a significant effect of diagnosis on pre-group CORE-10 scores ($F_{[2,39]}=1.36, p=0.270$) or WSAS scores ($F_{[2,39]}=0.21, p=0.814$), indicating that the diagnostic category of participants did not affect severity of symptoms or level of functioning at baseline.

Further one-way between-subjects ANOVAs were conducted to compare the effect of primary diagnosis on post-group CORE-10 and WSAS scores. These tests showed no significant effect of primary diagnosis on post-group CORE-10 scores ($F_{[2,39]}=0.49, p=0.619$) or WSAS scores ($F_{[2,39]}=0.19, p=0.827$) indicating that participants benefitted from the intervention irrespective of primary diagnosis.

Due to the small sample size and uneven distribution of participants attending different number of sessions it was not possible to statistically analyse the effect of number of sessions on outcomes variables. However, Table two displays the mean difference in CORE-10 and WSAS scores for participants attending different numbers of sessions. The most substantial improvement on CORE-10 and WSAS scores appears to be in those who attended eight sessions, but there are insufficient numbers for conclusions about optimum levels of attendance to be drawn.

Table two. Effect of number of sessions attended on mean change on outcome measures

Number of sessions attended	Mean difference between pre- and post-scores	
	CORE-10	WSAS
6 ($n=2$)	12.5	10.5
7 ($n=1$)	2	12
8 ($n=3$)	21.33	19.67
9 ($n=3$)	1.67	2
10 ($n=8$)	2.88	7.25
11 ($n=9$)	5.78	6
12 ($n=16$)	9.06	7.88

Booster session

Of the 42 participants who completed the group 50% attended the booster session. Post-group outcome measure data was obtained at session 12 and as such cannot provide an indication of the utility of the booster session. Differences between the groups were explored through an independent samples t-test of the post-group CORE-10 scores of those who attended the booster ($M=13.41, SD=8.02$) and those who did not ($M=16.71, SD=7.07$) and found no significant difference between the two; $t_{[40]}=1.53, p=0.134$. Non-significant differences were

also found between post-group WSAS scores of those who attended the booster session ($M=15.33$, $p=7.7$) and those who did not ($M=17.86$, $p=7.04$); $t_{[40]}=1.11$, $p=0.274$.

What do these results show?

Trans-diagnostic group CBT interventions for mental health problems are gaining evidence to support their effectiveness with positive outcomes demonstrated in a range of diagnoses with a particular focus on anxiety disorders. This is the first study investigating the efficacy of a trans-diagnostic CBT group that does not exclude participants on the basis of diagnosis. In contrast to the published literature the group programme in the current study is open to participants with any mental health diagnosis under the care of a secondary care mental health service. The data from five cohorts show that the group is associated with significant improvements in subjective distress and functioning, irrespective of diagnosis type. Although the effect sizes of the mean decrease in symptom severity and functional impairment are smaller than those reported in a meta-analysis by Norton and Philipp (2008), they still indicate large effects.

The study was conducted in routine clinical practice and as such provides an ecologically valid account of the effect of this intervention. However, there are a number of limitations that should be considered. Limited data on diagnosis has prevented detailed analysis of the effect of the group on specific diagnoses. Although the group has been demonstrated to be effective across the broad diagnostic categories reported, it is not possible to conclude whether the group is particularly beneficial to any specific diagnoses. Additionally, limited demographic information for the participants was collected and it is therefore not possible to explore the potential confounding effect of variables such as age, employment status, adjunctive medication, and previous or current additional psychological therapy. The relatively small sample size also limits the validity of between-group analyses of diagnostic categories.

Although the pre- and post-group outcome measures provide information on the effect of the group as a whole, no session-by-session outcome data was collected. This prevented an analysis of the change associated with individual sessions and the identification of specific trans-diagnostic processes that the group targets. It is therefore not possible to determine the components of the group that affected the positive changes observed but we can hypothesise about the factors that may have been involved.

The positive findings of the group may also be less generally trans-diagnostic and instead may be attributed to symptoms and trans-diagnostic processes of anxiety. For example it cannot be ruled out that the group predominantly improves anxiety, in line with the research evidence, and that those with other diagnoses, such as depression, bipolar or psychosis also have comorbid anxiety. This seems plausible given that just 19.6% of participants were listed as

having comorbid mental health problems but research suggests that approximately 85% of patients with depression will also experience significant levels of anxiety and comorbid depression occurs in up to 90% of patients with anxiety disorders (Gorman, 1996).

Additionally, the group may have acted on the presenting problem of participants whilst also affecting comorbid difficulties and symptoms below the clinical threshold that may serve to exacerbate the presenting problem. Rather than addressing one particular problem through a psychological intervention, a broader approach as employed in the group might allow skills to be generalised and applied to lower level difficulties. For example, the thought challenging skills developed by an individual with depression may also be applied to anxious cognitions and result in a decrease in comorbid anxiety. This is a positive outcome of the group but makes it difficult to identify the processes involved in the results.

It is possible that the situational elements of attending groups may have been beneficial. For example, the group in itself may have served to normalise the experience of participants leading to an improvement in distress and functioning. Wolfensberger and Tullman (1982) discussed the ways in which normalising can minimise the effect of feeling different to others in society. For the participants, being in a group setting with a number of other individuals experiencing similar difficulties to them might well have served this function and reduced psychological distress associated with feeling different and ‘abnormal’. This was not specifically measured in this study, but it may be useful to explore this in future research with a control condition.

Despite the limitations of the study, and the lack of clarity regarding the important processes involved, the results arguably offer greater ecological validity than other more robustly controlled research studies. The real-world sample of participants with the diagnoses, comorbidities and complexities typical of a secondary care mental health service suggests that trans-diagnostic CBT groups are a promising treatment option. In addition, these groups were run by practising clinicians from a range of disciplines within the service and the group facilitators followed a protocol devised by the clinicians based on their experience of working with individuals with a substantial range of diagnoses.

Recommendations

On the basis of the literature review and the evaluation of the group, the following recommendations have been made to improve effectiveness of the intervention and to allow the service to be more certain of the results obtained.

1. Participant demographic information should be gathered at the pre-group screening session in order for analyses of the effect of variables such as age to be explored. See Appendix F for a suggested interview guide.
2. A more robust assessment and recording of diagnosis and comorbidity should be conducted for participants attending the group. At present it is not possible to confidently conclude that the group intervention is equally efficacious across disorders because there is no reliable data regarding participant diagnosis. This could be obtained using a structured interview such as the Mini International Neuropsychiatric Interview (MINI; Sheehan et al., 1998) or the Structured Clinical Interview for DSM-IV (SCID-IV; First et al., 2002). Diagnosis should also be available from electronic patient records as recorded by a Consultant Psychiatrist; however, this is unlikely to provide information on comorbid difficulties.
3. Together with a more reliable measurement of participant diagnosis, disorder-specific outcome measures should be used in addition to the general outcome measures. This would allow for a comparison of effect sizes of the group intervention across disorders and diagnoses. The following disorder-specific measures were used for this purpose by Kristjánsdóttir et al. (In review):

- The Panic Rating Scale (Panic disorder)
- The Penn State Worry Questionnaire (GAD)
- Liebowitz Social Phobia Scale (Social anxiety)
- OCI-R (OCD)
- Impact of Events Scale (PTSD)

Participants with florid psychotic symptoms or in a manic episode are not usually accepted on to the group programme and are more likely to participate outside of an acute episode where secondary anxiety or depression are the target symptoms of intervention. Therefore, the most appropriate measure for secondary symptoms should be used.

4. Participant feedback should be gained after each session. This will provide data about the experience of participants whilst it is still fresh in their minds rather than waiting until week 12 when it is more likely that details of early sessions will have been forgotten. Weekly feedback will provide more information regarding the useful and less useful aspects of each session. For example, the introduction of a psychological model of depression and the rationale for behavioural activation in session two may prove particularly useful for participants with affective disorders but may feel irrelevant and even discourage further attendance for those with anxiety disorders. It is recommended that the Session Impact Scale (SIS; Elliott & Wexler, 1994) be used at the end of each session. Kellett et al. (2007) selected the SIS to measure effectiveness of sessions within a group CBT intervention and adapted the original measure accordingly. For example, they removed items relating to the therapeutic relationship and used items from the two subscales relating to task and

interpersonal impacts. The authors also added an item concerning the usefulness of the materials from that session. The Cronbach's alpha of the adapted scale was calculated as 0.95.

5. In groups to date only 50% of participants attended the booster session held one month after session 12. It is unclear if attendance has a significant effect on outcome measure scores as these are completed at session 12, (although there is no significant difference between the CORE-10 and WSAS scores of those who attended and those who did not). In order to determine if the booster is of clinical value outcome measures should be administered at session 12 and after the booster session. Ideally outcome measures should be repeated at a one-month (or longer) follow-up in order to gather data after the participants have had an opportunity to apply and further develop the skills learnt.
6. The Cognitive-Behavioural Therapy Skills Questionnaire (CBTSQ) should be administered at the pre-group screening interview and at the end of the group programme. This measure identifies changes in the frequency of which CBT skills are utilised by participants. The measure was developed by Jacob et al. (2011) and has subsequently been used by Webb et al. (2013) and Hundt et al. (2012). The CBTSQ has been found to have high internal consistency and to be both valid and reliable. This data will allow analyses to be conducted to identify any association between change in level of distress and change in CBT skills.

Part two: The PDSA cycle

Plan

The recommendations were presented to the service where it was decided which would be implemented in the subsequent group as follows:

1. The team agreed to collect more participant demographic data at the pre-group screening interview.
2. The team did not think that the time involved in administering a diagnostic screening tool was justifiable. However, they agreed to routinely collect information on diagnosis via review of the patient record.
3. Linked to the decision not to use a diagnostic screening tool, the team also chose not to administer disorder-specific outcome measures as it was felt that this would result in participants being asked to complete too many questionnaires. Instead they agreed to obtain pre- and post-group responses using the Generalised Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006) and the Patient Health Questionnaire-9 (PHQ-9; Kroenke & Spitzer, 2002), that provide a measure of anxiety and depression respectively, in addition to the WSAS and CORE-10 as administered in previous groups.
4. It was decided that the SIS should also administered at all sessions.
5. The booster session was omitted due to poor attendance at the previous groups. Obtaining follow-up data from one month after the group was not felt to be feasible as some patients are discharged after the group.
6. The team agreed to administer the CBTSQ at pre- and post-group time points in order to track change in CBT skills.

Do

The group was delivered again in 2014, facilitated by a psychological therapist, a psychologist and two nurses, one of whom was involved in a trainee capacity. With the exception of the booster session being omitted the group ran according to the protocol outlined in Appendix E. It was hoped that the results would support the previous positive findings and allow for more robust analyses of the effects of different variables.

Study

The group started with nine participants. Five completed the group and provided pre- and post-group outcome measures. Participant characteristics and baseline outcome measure scores are displayed in Table three. Due to the very small sample size statistical analysis of the data and an intention-to-treat analysis were not possible.

Table three. Baseline participant characteristics of post-recommendation group ($n=9$).

Female, n	8
Primary diagnosis: anxiety disorder, n	1
Primary diagnosis: affective disorder, n	3
Primary diagnosis: psychotic disorder, n	5
Comorbid diagnosis, n	1
Attrition, n	4
CORE-10 Pre-group, mean (SD)	20.67 (6.95)
WSAS Pre-group, mean (SD)	28.0 (8.65)
GAD-7 Pre-group, mean (SD)	21.33 (5.66)
PHQ-9 Pre-group, mean (SD)	25.78 (6.18)
CBTSQ Pre-group, mean (SD)	44.56 (8.69)

Attrition

44.44% ($n=4$) of participants did not complete the group. This is higher than the attrition rate of the previous groups (17.6%). When the pre-group outcome measure scores were examined all participants exceeded the clinical cut-offs for the CORE-10, WSAS, GAD-7 and PHQ-9² suggesting severity of symptoms at the start of treatment was comparable to that of participants in the earlier evaluation.

Treatment efficacy

The mean pre- and post-group outcome measures for completers are displayed in Figure four. The post-group mean scores on all symptom outcome measures demonstrated a small decrease from pre-group scores.

Skills development

Mean pre- and post-group CBT skills of participants are displayed in Figure four (CBTSQ). The mean post-group scores show an increase from the mean pre-group score.

Session evaluation

The SIS was administered in only six of the 12 sessions due to some confusion with instructions. The results are shown in Figure five.

² The clinical cut-off for the GAD-7 and PHQ-9 is 11 (moderately severe anxiety/depression).

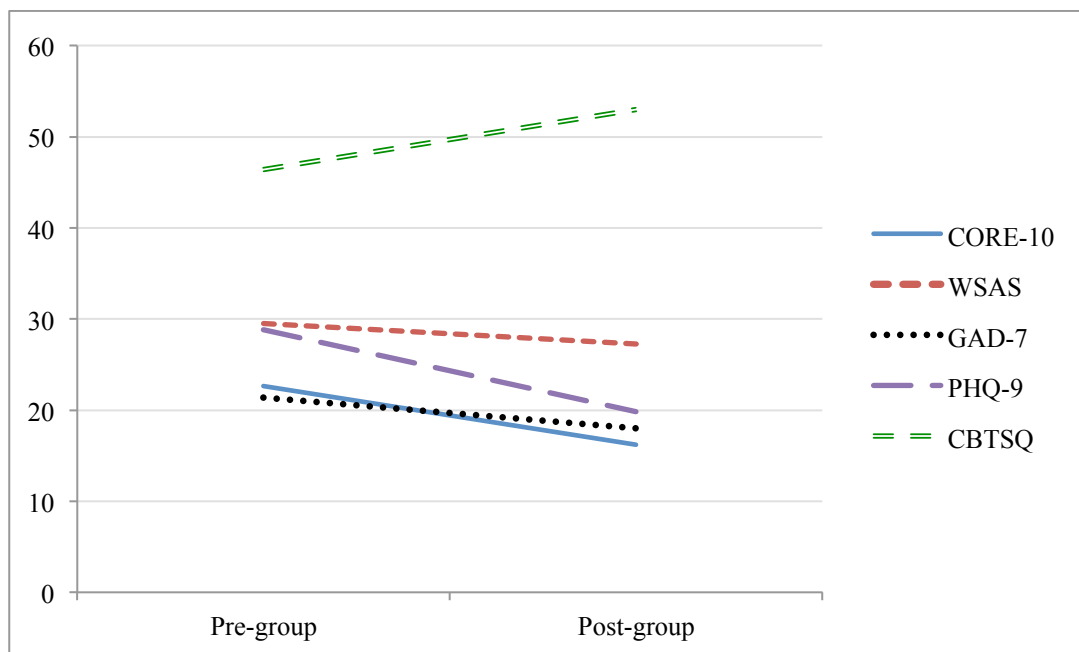


Figure four. Mean pre- and post-group outcome measure scores for post-recommendation group

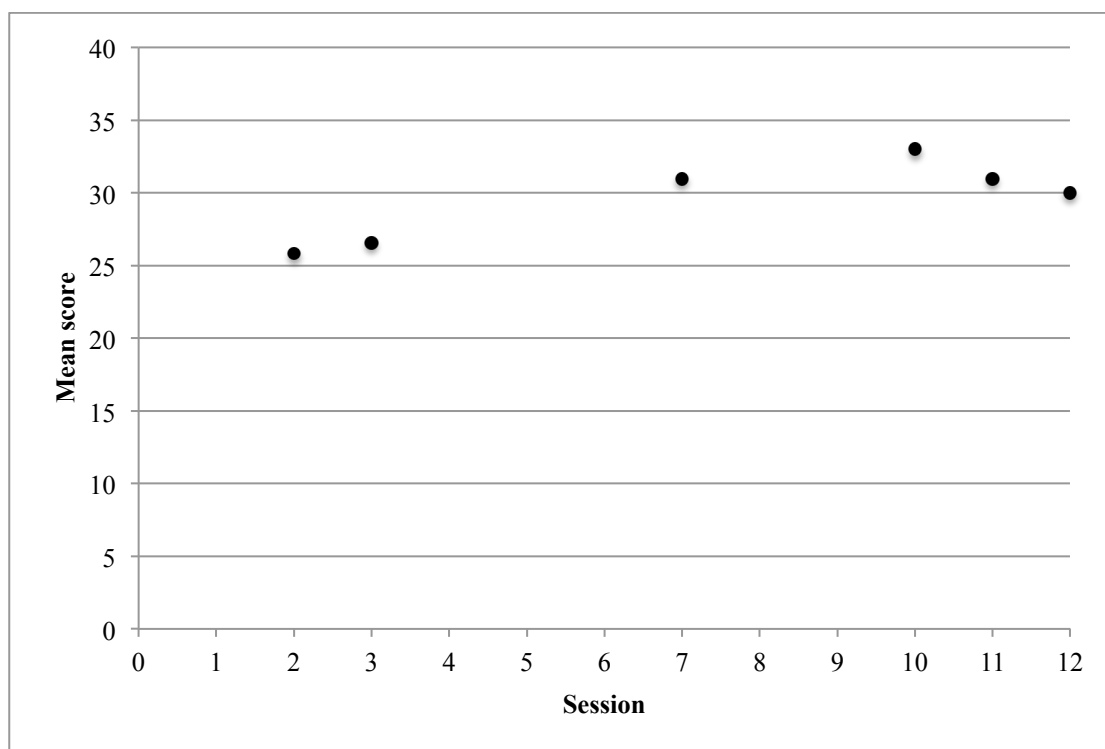


Figure five. Mean SIS scores

Due to the incomplete data set and inconsistency in the number of participants at each session further analysis of this feedback is not possible. Feedback forms were collected

anonymously to ensure that participants felt able to provide honest comments. However, this prevented an analysis of the effect of session ratings on other outcomes.

What do these results show?

The results described here were obtained from one cohort with a very small sample size. The attrition rate in this cohort was higher than in part one of this evaluation, further limiting the data analysis and conclusions that can be drawn. Although no statistical analysis could be performed, the mean scores for post-group symptom-related outcome measures all showed a decrease from baseline, and participants demonstrated an increase in CBT skills over the course of the group.

Unfortunately the difficulty identified in part one in examining the effect of the group on diagnosis type remained in part two. Although diagnosis was collected in a more routine manner from patient records, no further information about comorbidities was obtained and diagnosis was not based upon a standardized measure. It is therefore not possible to explore specific diagnoses (for example different anxiety disorders) and the three diagnostic categories used in part one were also used for the analysis in this secondary evaluation.

It is not possible to draw robust conclusions from the sample size presented in part two. However, the initial findings provide useful information about the implementation of the recommendations made following the analysis of the first five cohorts. For example, the inclusion of a range of questionnaires at pre- and post-group has provided a more detailed impression of the impact of the group. Using the PHQ-9 and GAD-7 outcome measures has resulted in information about the differential effect of the group on anxiety and depression. Further groups should continue to collect this information in order to explore any differential effects of the group on these symptoms. Further, the use of the CBTSQ provided useful information about the skills developed in the group. With the inclusion of future group data it may be possible to draw more robust links between outcomes and increased CBT skills.

Session-by-session feedback was obtained for half of the sessions. The feedback received indicated that participants who responded found the group helpful. Later sessions were scored more highly than earlier ones. However, as the feedback was obtained anonymously it is not possible to explore whether this increase was due to increased satisfaction towards the end of the programme or to other variables such as those participants who were less satisfied dropping out.

Furthermore, due to the feedback being obtained for only half of the sessions there is limited information about the usefulness of individual sessions. Future groups should obtain this feedback after each session and consideration should be given as to whether this information could be obtained for each individual rather than in an anonymous manner. This would allow an analysis of the impact of each session on an individual's outcomes as well as providing

information about satisfaction with the group and any association with attrition or diagnosis. It seems that there was some miscommunication about the session feedback that may have led to the confusion over the frequency at which it was administered. In previous groups feedback was collected at the end of the group programme and it seems that the change to session-by-session feedback was not communicated to all facilitators. This meant that some facilitators administered the feedback forms after each session whilst others did not.

With the exception of the session feedback the recommendations that were implemented provided useful additional information about the effectiveness of the group. The recommendations that the team chose not to implement, such as the use of a standardized diagnostic tool for recording the diagnoses and comorbidities, were those that would substantially increase the time demand on the staff involved and were deemed unnecessary for the routine clinical delivery of the intervention. However, it is important that the measures and procedures that have been adopted are administered in a routine fashion. In order to ensure this a review of the measures administered and data collected should be made during each supervision session. This will help to ensure that all facilitators are delivering the intervention in a standard way and regularly reviewing the session feedback will mean that comments of patients can be acknowledged and acted upon, rather than waiting until the end of the intervention to see what could have been done differently.

Overall, the post-recommendation trans-diagnostic CBT group has demonstrated modest reductions in symptomatology and increases in functioning. The recommendations that were implemented provided more information about the changes associated with the group, specifically around symptoms of depression and anxiety and the development of CBT skills. The results of the initial evaluation suggest that the intervention is an effective treatment option for individuals under the care of the secondary care mental health team, irrespective of diagnosis, and should continue to be available in the future to individuals in this area. Furthermore, the initial positive findings provide justification for this intervention to be available to individuals in other areas receiving care from mental health services.

Act

The post-recommendation group supports the initial findings by repeated demonstration of an apparent trend for improvement for those participating, including on newly used measures of depression and anxiety, although sample size would need to be bigger to assess statistical significance. Therefore, the additional information and outcome data should continue to be collected from future group programmes. The team should also continue to collect session-by-session feedback from each session in order for a more thorough investigation of the mechanisms of change within the group.

The recommendations detailed methods for improving future evaluations of the group. This was important because only by obtaining more detailed and specific information about the positive findings could the actual delivery of the group be considered and potentially improved. Unfortunately some recommendations were not implemented, meaning that the PDSA cycle should continue. Once further group data has been collected an additional evaluation should be conducted in order to investigate more thoroughly the effect of the group.

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Main research project

A test of a cognitive model of violence: a comparison of thinking in violent and non-violent men

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Journal submission

This review will be submitted to the *Journal of Personality and Individual Differences*. This journal was chosen due to its publication of other articles exploring the role of thinking and beliefs in violent offending (Appendix Q).

Introduction

Violence poses a significant problem for those directly involved, such as the victim, the perpetrator and their families, and for society as a whole, placing a burden on services including the criminal justice system and the NHS. Most recent reports estimate that there were 1.3million violent incidents in England and Wales between October 2013 and September 2014 (Office for National Statistics, 2014). Gilligan (2001) suggested that a crucial step in the prevention of violence was gaining an understanding of its underlying causes and there is a growing body of literature aiding the development of this understanding.

A central distinction that has guided theories of violence in recent years has been that of instrumental and affective (otherwise referred to as reactive, hostile or angry) violence. Bushman and Anderson (2001) described affective aggression as impulsive and driven by desire to inflict harm, whereas instrumental aggression is premeditated and motivated by the pursuit of a different goal, for example obtaining money. They went on to outline and critique three differences suggested to be key between affective and instrumental aggression; the primary goal being harm or a means to another end, the presence or absence of anger, and the extent to which planning and premeditation is involved. Bushman and Anderson (2001) argued that these factors lead to a dichotomous view of aggression and violence that prevents consideration of the commonalities of affective and instrumental aggression. Instead, Anderson and Bushman (2002) proposed that the important distinction lies in whether inflicting harm constitutes a proximate or an ultimate goal. They suggested that intent to harm is a necessary part of any violent act but what differs is whether this harm forms the ultimate goal (such as assault) or a proximal outcome in the pursuit of a different ultimate goal (such as robbery).

The distinction between instrumental and affective aggression and violence is important because true instrumental aggression and violence has the potential to be motivated and understood in numerous ways, not necessarily with violence at the core. For example, an individual may commit an armed robbery simply to enrich him or herself, and the theories and models used to understand affective violence would not be applicable. As a result, psychological theories and understandings of violence tend to focus on affective violence, where intent to harm is an ultimate goal, rather than instrumental violence.

One of the central factors in the development of cognitive theories of non-instrumental violence has been anger. Novaco's cognitive behavioural model of anger proposed that cognitive processes mediate the link between a trigger event and feelings of anger which can in turn lead the individual to act in an aggressive manner (Novaco, 1978). Novaco and Welsh (1989) suggested that the cognitive processes involved in the association between an event and the experience of anger can be described in terms of five information-processing biases: attentional cueing, perceptual matching, attribution error, false consensus and anchoring effects. Novaco suggested that these cognitive processes all contribute to the way in which events are

(mis)interpreted in a manner that can lead to anger and violence (Novaco, personal communication, 24 July, 2015).

There has been considerable further research into the association between anger and violence with findings that anger predicts aggression in a range of samples including young offenders, non-violent adults, mentally-disordered offenders and incarcerated offenders (Loza & Loza-Famous, 1999). As a result, anger management using cognitive-behavioural approaches has been widely provided in prisons and forensic settings. However, evidence for the benefits of anger management for violent individuals is inconclusive. Meta-analyses in the field (Beck & Fernandez, 1998; Edmondson & Conger, 1996) have been criticised for basing their conclusions on some studies that used normative samples, including school children, and spurious uses of effect sizes and statistical analyses (Walker & Bright, 2009a). In addition, the link between anger and violence itself has been disputed (Loza & Loza-Famous, 1999) and these findings led Walker and Bright (2009a) to suggest that anger management for violent offenders may be both ineffective and irrelevant. Novaco, an early proponent of anger management, considered that as a normal human emotion, anger was neither necessary nor sufficient for violence (Novaco, 1994).

Shanahan, Jones and Thomas-Peter (2011) highlighted that although Novaco and Welsh (1989) offered various cognitive processes for consideration in the development of anger relating to interpretations made by an individual about their internal, external or imagined experience, the theory fails properly to consider how high or low self-worth might be involved in unhealthy anger. They went on to evaluate the relationship between unhealthy anger, shame and self-worth and highlighted the importance of low self-worth and high feelings of shame in the development of anger, proposing that, in line with Beck (1999), anger may act as a defence against these negative self-concepts.

There are conflicting ideas about the role of self-worth or self-esteem in violent behaviour with some suggestions that low self-esteem is associated with violence whilst others propose that high self-esteem constitutes the greater risk factor. Salmivalli (2001) and Baumeister, Bushman and Campbell (2000) highlighted that many authors have referred to a link between low self-esteem and aggression but without basing this claim on any empirical evidence. Salmivalli (2001) suggested that this may be due to it seeming anomalous to think that individuals who feel good about themselves would act in a violent or aggressive manner to others. However, Baumeister et al. (2000) disputed this popular belief and suggested that low self-esteem is more likely to lead people to avoid risk, to submit to external influence and to be confused about their identity; factors that they said contradicted patterns and characteristics of violent individuals. Instead, they cited an earlier review (Baumeister, Smart, & Boden, 1996) suggesting that high-self esteem and feelings of superiority were consistently associated with violence. Baumeister et al. (2000) did not propose that simply the presence of high self-esteem

is a causal factor in violence, but that the danger arises when high self-esteem is combined with an ego-threat; the threatened egotism hypothesis. This suggests the violent individual's high self-esteem to be fragile and vulnerable to underlying self-doubts and fears of losing esteem, and so when threatened leads to attack.

This argument seems to link to another important concept in exploration of self-worth and violence; the stability of high self-esteem. Kernis, Grannemann, and Barclay (1989) found that those with unstable high self-esteem were more aggressive than controls, whereas those with stable high self-esteem were not. Kernis, Cornell, Sun, Berry, and Harlow (1993) discussed this unstable subgroup of individuals with high self-esteem and suggested that they are particularly prone to violence and aggression due to their self-concept being fragile and vulnerable and thus particularly sensitive to external insult and provocation. With these findings in mind, Salmivalli (2001) suggested that unstable high self-esteem may actually be falsely-inflated, appearing high but concealing a low sense of self-worth. This potentially explains why the instability of an individual's high self-esteem represents such an important distinction in terms of the association with violence and offers an alternative view to Baumeister's threatened egotism hypothesis (Baumeister et al., 1996). This is consistent with the literature exploring the concept of narcissism. Tafarodi and Ho (2006) discussed the dissociation of conscious and unconscious aspects of self-worth and linked narcissism to low implicit and high explicit self-esteem, whereby an external portrayal of the self as superior masks an internal sense of low self-worth. Baumeister et al. (2000) also linked narcissism to high but unstable self-esteem, suggesting that this construct is relevant to this debate.

Walker and Bright (2009b) systematically reviewed the evidence relating to self-esteem and violence and concluded that low, rather than high, self-esteem appears to be more consistently associated with violence. They also found preliminary evidence that narcissism is predictive of violence. Walker and Bright (2009b) used these findings, as well as their own clinical experience, to propose a cognitive model of violence with low self-esteem, disguised by falsely-inflated self-esteem, at the core.

This model links to the cognitive theory of emotion (Beck, 1976) which suggests that anger arises from the appraisal of situations in terms of someone having 'broken the rules'; it is also informed by the cognitive model of self-esteem (Fennell, 1997). The Walker and Bright model is shown in Figure one and, as with other cognitive models, it postulates that one's early experiences lead to the development of core beliefs. Often these are linked to the Beckian cognitive triad of the self, world and future, however, this model places particular emphasis on negative beliefs about the self (low self-esteem). Conditional assumptions (or 'rules for living') are then developed to try to defend against these beliefs and can serve to compensate for deeply negative self-appraisals through aggression, exaggerated displays of confidence and, seemingly, arrogance.

The model proposes that particularly important to violence are beliefs related to self-esteem, specifically of the self being vulnerable, weak or stupid, and conditional assumptions will manifest as strategies for portraying the opposite; the self as strong and to be respected (i.e. “If someone disrespects me I must fight to show that I am strong”). In this context a trigger could lead the individual to feel actual or threatened humiliation and/or disrespect, activating the core beliefs against which the individual unconsciously tries to defend. The grey pathway in Figure one represents the experience of real humiliation or disrespect and this, in the absence of other strategies, can quickly lead to a violent response. The black arrows indicate how the perception of a *threat* of humiliation or disrespect can result in the same response due to the influence of negative predictions and resultant anxiety. Finally, the dotted pathway represents a situation in which the individual perceives real or threatened humiliation or disrespect and experiences associated anxiety, but is able to resist a violent response. However, each pathway can result in the confirmation of the individual’s negative self-beliefs which reinforces thoughts around the necessity of a violent response to prove one’s strength; the dotted pathway, where violence is resisted, is suggested to lead to increased self-critical thinking linked to core beliefs and increased anxiety which feed back into the cycle and maintain a pattern of violent responding.

The model was developed based on the tendencies of violent offenders, noted during the authors’ clinical experiences, to draw extremely personal and negative meanings from seemingly innocuous social situations; Walker and Bright (2009b) suggested that the situations and insults that are most congruent with one’s negative beliefs are most hurtful and humiliating. Therefore if a situation, whether real or perceived, taps into a negative aspect of the self that the individual associates with fear, shame or dislike, they are more likely to react in a manner that protects the self from further insult. A violent response serves the double purpose of protecting and maintaining a sense of self-worth by fighting and not backing down, whilst also punishing the victim for the humiliation they caused or threatened to cause.

Although the model could be criticised for not focussing on affect, and in particular the experience of anger, it can nevertheless be seen as complementing, rather than contradicting, the extensive research in this field. From the perspective of Novaco’s theorising (Novaco & Welsh, 1989), the Walker and Bright model of violence could be taken as elaborating on and more clearly specifying the attribution errors suggested as being an important cognitive process involved in the development of anger and subsequent aggression and violence. As such the model focuses on these cognitive processes; should it stand up to empirical testing it may then benefit from further clarification regarding the combining of cognitive and affective theories of violence.

Cognitive theories have been proposed in other areas of psychology and the applicability of the different stages explored through studies of phenomenology. For example,

the cognitive model of panic disorder was proposed (Clark, 1986) and its components explored through experimental studies (Clark et al., 1988; McNally & Foa, 1987), the findings of which informed cognitive-behavioural treatment of panic disorder. In a similar process, research now needs to be conducted to explore the applicability of the cognitive model of violence. As with other cognitive models, a key element appears to be underlying core beliefs and assumptions and the subsequent appraisals that they influence. It is possible that the conditional assumptions suggested as being important in this model lead individuals to be hypervigilant to humiliation, disrespect and provocation and, therefore, for subsequent interpretations of events to be skewed. Identifying and understanding cognitive processes that may be involved in violent behaviour is crucial for the development of strategies to challenge cognitions related to violence and ultimately to prevent violence itself.

Using research design and methodology from a study that investigated the role of interpretation in the cognitive model of panic (Clark et al., 1997), the Violence Interpretation Questionnaire (VIQ) was developed to explore the importance of negative interpretations of social situations in violent behaviour. Negative interpretations in this context refer to appraisals that indicate the individual perceives some disrespect or violent intent from another person. Although there are other possible negative interpretations that can be made these are the main appraisal styles suggested by the model to be particularly implicated in violence. Therefore, for the purpose of this study, 'negative interpretation' is used to refer to these types of appraisal. It is hoped that gaining an understanding of the nature of interpretations made by violent men will provide clinically useful information to inform assessment and treatment strategies for violent offenders. The section of the model tested in this study is highlighted in Figure one.

The primary hypothesis of this study is that violent offenders will interpret ambiguous interpersonal situations, as assessed using a new measure (VIQ), more negatively than non-offenders, but will not show this pattern for non-social control items. It is also predicted that negative interpretations of interpersonal situations will correlate with violent thinking and with narcissism. In addition, this study will seek to explore the concurrent validity of the VIQ with another measure of violent thinking.

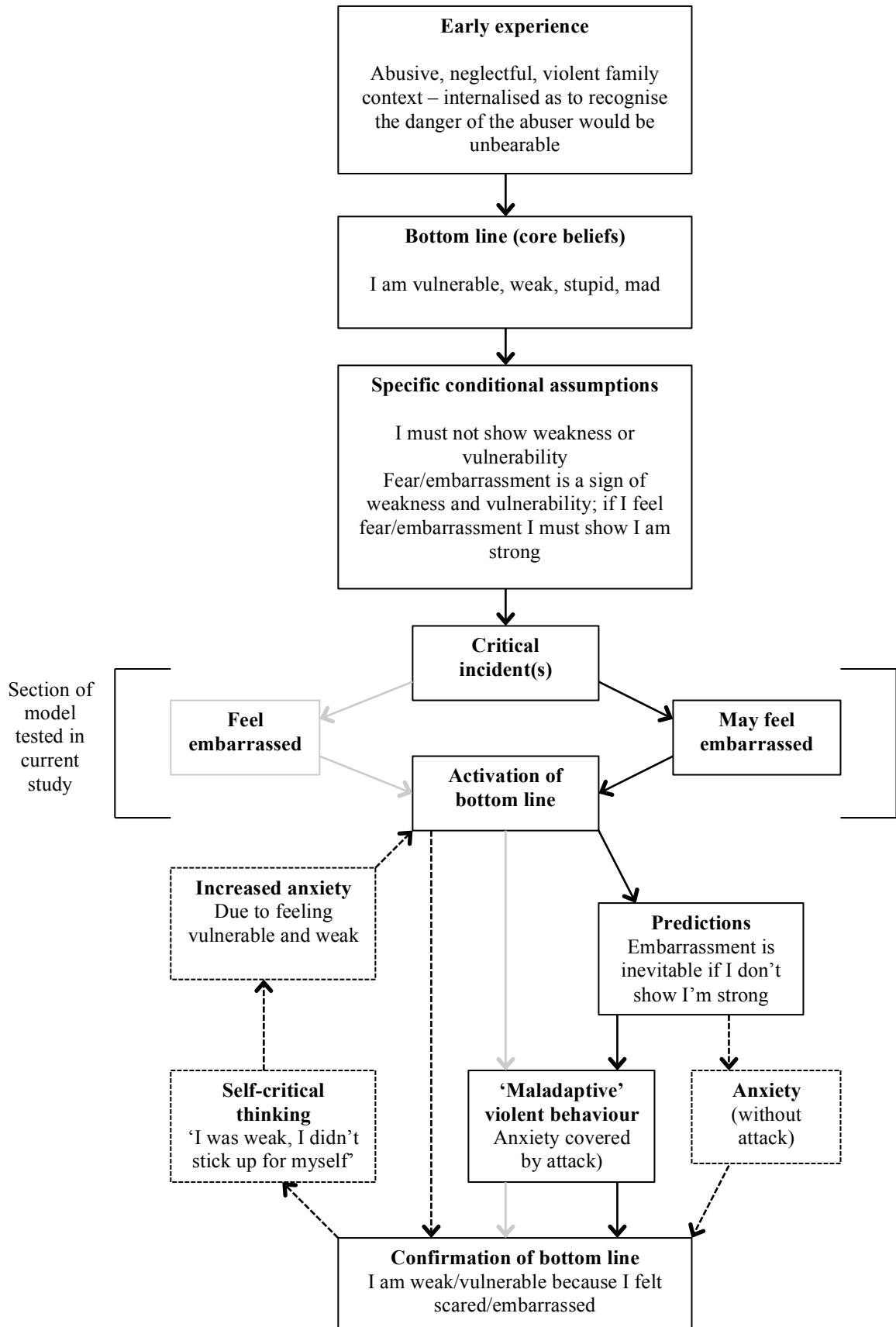


Figure one. A cognitive model of violence (Walker & Bright, 2009b).

Method

Participants

Two groups of adult male participants were recruited: a sample with convictions for violent offences from the National Probation Service ($n=17$) and a normative online sample without a known offending history ($n=97$). No incentives were provided for participants. The online sample was subsequently split into those who endorsed any item on the Self-Report Violence Scale ($n=28$) and those who did not ($n=69$); participants who scored one or more were considered to be aggressive having reported committing at least one illegal violent act in the previous 12 months. This resulted in three separate groups referred to here as the offender group, aggressive control group and non-aggressive control group.

Inclusion criteria

For the offender sample the following inclusion criteria were applied: a) male; b) over 18 years old; c) statutory offender (i.e. currently on a probation order); d) living in the community (not in prison); e) convicted of at least one violent offence¹; f) no previous convictions of sexual offences; g) no diagnosed learning disability; h) not suffering from serious mental health problems as reported by probation officer; i) not deemed by probation officer to be too high risk to meet with a lone female researcher.

Participants in the online control sample were required to be male and over 18 years old. The online sample was anonymous allowing for no verification of the demographics or offending histories.

Women were excluded due to various gender differences including those in the nature of violence and aggression (see Motz, 2008).

Measures

The VIQ (Appendix G) was developed for this study and comprises 22 items that assess how an individual interprets ambiguous interpersonal situations and non-social events, and how they would anticipate responding. The questionnaire design and scoring is based upon the Bodily Sensations Interpretation Questionnaire (BSIQ) used in a study exploring interpretations in individuals with panic disorder (Clark et al., 1997) and the VIQ uses the format of the BSIQ wherever possible. Ideas for situations were generated and discussed between authors to identify those that could potentially be construed as negatively self-referent.

¹Any uncertainty about the definition of 'violent offence' was discussed with the probation officer. Violent offences reported here were committed under the Offences Against the Person Act (1861), Public Order Act (1986) or under common law (i.e. murder).

The VIQ lists 11 ambiguous interpersonal situations that may be appraised as positive, neutral or negative. Following each item are the questions ‘why?’ and ‘what would you do?’ inviting the participant to provide their interpretation and most likely behavioural response for the situation. In accordance with the methodology of studies using the BSIQ these open responses are not analysed (Clark et al., 1997). In the initial study using the BSIQ, open responses were rated as being negative, neutral or unclassifiable by two independent raters. These ratings, however, were found to provide no additional information to the rankings and were time-consuming to complete. Consequently, the rating of open responses was not conducted in further studies using the BSIQ and, therefore, the function of the open responses of the VIQ is solely to prompt participants to think through the situation and their likely interpretation and behaviour. Participants then turn the page and rank three possible explanations in terms of likelihood. The offered explanations comprise one negative and two neutral options. The negative interpretations are based on one of two categories: perceived violent intent or perceived disrespect and, according to the cognitive model, these two broad categories are hypothesised to be linked to core beliefs of violent individuals². Participants are also asked to choose the most likely way in which they would respond from three options that comprise one aggressive and two either assertive or passive options. The format of the behavioural response section differs from the BSIQ; questions about behavioural responses are presented alongside interpretation questions for brevity and simplicity.

The 11 control items relate to non-social situations that may threaten self-esteem and control for the potential threat to validity of participants responding in a generally negative manner rather than specifically in interpersonal situations. Negative responses to all items may indicate global low self-esteem rather than a specific cognitive bias in interpersonal situations. Control items are presented in the same format as the interpersonal items. The suggested behavioural responses will not be included in the analysis; this section is included to blind participants to control items.

VIQ Scoring (Appendix H)

Scores from the ranking of possible explanations are given depending on whether the negative option is ranked first, second or third, with a score of three, two and one respectively. Total interpersonal and non-social scores are then calculated with a hypothetical range of 9-27.

² Consideration was given to possible different interpretations but it was found that they could always be covered by one of the two broader categories of perceived violent intent or disrespect (i.e. perceived to have been taken advantage of would fall into perceived disrespect). Future research will use thematic analysis techniques to identify themes in open responses that will further validate the use of these categories.

Behavioural responses are scored for interpersonal items; aggressive actions are summed into a total aggression score (range 0-9).

VIQ Pilot

The VIQ was piloted with six men without an offending history to check acceptability and ceiling and floor effects. This resulted in four questions being omitted; two interpersonal items were removed due to ceiling and floor effects and two non-social items were removed to allow for equal numbers of item type. Time taken to complete the VIQ ranged from 20-30 minutes. The final study protocol was then piloted with two offenders who both found participation to be acceptable and raised no difficulties or concerns.

VIQ psychometric properties

The VIQ is a novel measure and, therefore, its psychometric properties will be investigated. The internal consistency and distribution of the data on interpersonal items of the VIQ will be analysed and reported.

The Self-Report Violence Scale – Prison Sample – UK (SRVS; Mak, 1993) was originally designed for use with Australian adolescents but has been revalidated for use in Western Australia (Carroll, Durkin, Houghton, & Hattie, 1996) and with adult clinicians, criminal justice professionals and a sample of 785 adolescent students in the UK (Walker, 2005). A nine-item violence scale was used in a recent study with violent and non-violent adult samples and showed significant correlations between offending status and self-reported level of violence, suggesting that the measure is sensitive to differences in levels of previous violence in offender and non-offender populations (Walker & Bowes, 2013). This nine-item scale was administered in the current study. Upon further review of the scale one item (related to bullying) was omitted; unlike the remaining eight items this did not constitute an illegal violent act and if endorsed would not necessarily reflect an individual with violent tendencies (see Appendix I).

The MVQ (Walker, 2005) assesses an individual's beliefs and rules relating to violence and has been shown to be a valid and reliable measure of violent thinking that significantly relates to self-reported violence and official records (Walker & Bowes, 2013). The MVQ is a 54-item questionnaire that invites participants to respond 'true' or 'false' to a range of cognitions and beliefs that violent individuals are thought to use, for themselves and others, as justification of their violence. The MVQ comprises of two subscales; machismo and acceptance and a significant positive correlation has been found between scores on the machismo subscale and self-reported violence. The acceptance subscale can also indicate socially-desirable responding.

The Narcissistic Personality Inventory (NPI-16; Ames, Rose, & Anderson, 2006) is a short version of the NPI-40, a 40-item forced-choice measure of narcissism (Raskin & Hall, 1979; Raskin & Terry, 1988). Ames et al. (2006) found the NPI-16 to be valid and predictive of the longer NPI-40 and, as such, they recommend its use in situations where a shorter measure is appropriate. This measure of narcissism was administered to assess a component of self-esteem. Self-esteem is clearly implicated in the model but assessing this construct is complicated by a pattern of responding hypothesised to disguise low self-esteem through falsely inflating the view of the self, thus appearing as high self-esteem. Walker and Bright (2009b) suggested that self-esteem may be falsely inflated either consciously or unconsciously, with the former often identified as arrogance whilst the latter more commonly considered a narcissistic defence. With the inherent difficulties in measuring self-esteem, the NPI was included to explore whether this type of false inflated self-esteem is linked to violent thinking.

The Paulhus Deception Scale (PDS; Paulhus, 1998) measures two facets of socially desirable responding; impression management (IM) and self-deceptive enhancement (SDE) and can be used as a validity check. IM represents a conscious effort to portray oneself in a more, or less, socially desirable manner whereas SDE explores an unconscious bias to respond in a socially desirable manner and extreme scores on this scale are closely related to narcissism. For research use, the PDS manual recommends examining IM scores and provides thresholds for likely invalid responding. Lanyon and Carle (2007) explored the internal and external validity of the PDS and found that it is an appropriately valid measure to use with forensic populations. The PDS consists of 40-items and invites participants to respond on a five-item Likert scale indicating how true of themselves they consider a particular statement to be. The PDS was administered in the offender group as a validity check. IM scores above the cut-off for 'faking good' (>8) and below the cut-off for 'faking bad' (<2) indicate that the participant may have responded in a socially-desirable manner and the data obtained using other measures should be interpreted with caution.

Procedure

Ethical approval was obtained from the National Offender Management Service Research Committee (2014-232) and the University of Bath Psychology Ethics Committee (14-099).

Violent offender sample

Initially, all probation officers in a specialist team in the probation service who manage the most high-risk violent offenders were asked to identify all individuals on their caseloads who fitted the inclusion criteria. When it became clear that insufficient numbers were available in this team, in part due to the number excluded on the basis of sexual offending and the high prison recall rate, probation officers in the general probation service were also approached. Probation officers gave individuals fitting the criteria an information sheet about the study and asked if they would be willing for the researcher to contact them (Appendix J). Those who gave consent were contacted and a meeting was arranged.

Participants met the researcher either at the police station where they were usually seen by their probation officer or in an approved probation hostel (where they were residing). Participants provided informed, written consent (Appendix K) and some demographic information (Appendix L). They were then given the choice of completing the five questionnaires independently but with the researcher present, or to go through the study together with the researcher reading items aloud and writing responses. The majority of offenders opted for the researcher to provide such assistance mainly, it appeared, due to difficulties with reading and writing, or lack of confidence in these things. All responses were confidential and anonymous, with the exception of any information that indicated a risk to the safety of the participant or others, or related to a previous offence not known to the probation service or police. In such cases only information directly relating to this risk was disclosed to the individual's probation officer. Scanned copies of consent forms were uploaded to the probation record of participants and the researcher met with a member of probation staff to obtain details of previous convictions, custodial sentences and risk profile scores (Appendix M).

Aggressive and non-aggressive control samples

The control groups were a sample of convenience recruited online. Professional and personal contacts of the researcher were asked to participate in the study and to share this with their own contacts. Social media networks including Facebook and Twitter were utilised to ensure that participants represented a wide range of ages, demographics and social circumstances. Participants were provided with a link to an online version of the study using Bristol Online Surveys where the information sheet was presented and consent was gained using tick boxes. Participants were able to contact the researcher with any queries or concerns prior to completing the study. Responses were anonymous.

Statistical analyses

Power considerations

The VIQ was a new measure and therefore a power calculation was conducted based upon a recent validation of the MVQ with adult offenders and non-offenders (Walker & Bowes, 2013) in which the effect size for the relationship between machismo and self-reported violence was $d=1.2$. Originally a somewhat different design was planned for this study and, using this effect size, a calculation based on the intended primary analysis (two-way between-participant analysis of variance) indicated that a minimum sample size of 40 (20 per group) would have 96% power to detect differences between the two groups at a 0.05 two-tailed significance level. Although it became clear that recruitment of the originally proposed comparison group (non-violent offenders) was impractical and the study changed in design, the sample size suggested here was retained.

Missing data

There were a small number of missing data points in the offender group. Four omitted one item each on the VIQ and nine omitted between one and three items on the PDS. Missing PDS data was pro-rated according to the manual and missing VIQ data was pro-rated using this same method.

All data were stored anonymously and securely. Responses were entered, coded and analysed using SPSS Version 19.

Results

Demographic information of the three groups is displayed in Table one. One-way analyses of variances were carried out and found a significant effect of group upon both age ($F_{[2, 111]}=5.22, p<0.01$) and education ($F_{[2, 111]}=22.92, p<0.01$). Post-hoc tests revealed that age differed significantly between the non-aggressive control and both aggressive control and offender groups ($p<0.01$) but no significant difference was shown between the aggressive control and offender groups ($p>0.05$). There were significant differences in education level between the offender group and both aggressive and non-aggressive controls ($p<0.01$) but not between the two control groups ($p>0.05$).

Table one. Participant characteristics

	Offender sample; <i>n</i> =17	Aggressive control; <i>n</i> =28	Non-aggressive control; <i>n</i> =69
Age, mean (SD)	34.82 (11.29)	35.07 (10.76)	43.39 (15.02)
Marital status, <i>n</i> single (%)	14 (82.35)	14 (50.0)	14 (20.29)
Ethnicity, <i>n</i> white (%)	26 (92.86)	14 (82.35)	66 (95.65)
Number of GCSEs grades A-C, mean (SD)	2.25 (3.57)	8.18 (3.29)	7.84 (2.94)
Employment status, <i>n</i> unemployed (%)	9 (52.94)	2 (7.14)	1 (1.45)

Table two. Offence histories and PDS scores of offender group (*n*=17)

	Mean (SD)	Range
Total convictions	10.59 (8.39)	1-28
Total offences	26.41 (28.40)	1-103
Total offences against the person	4.59 (3.28)	0-11
Total custodial sentences	10.29 (12.0)	0-47
OVP risk score – year 1	27.41 (15.84)	4-60
OVP risk score – year 2	39.76 (19.30)	8-74
PDS IM	7.01 (3.36)	-
PDS SDE	3.51 (2.96)	-
PDS total	10.16 (5.09)	-

Note: ‘Convictions’ indicate number of court appearances at which participant was convicted; ‘offences’ indicate number of separate offences for which the participant was found guilty; ‘offences against the person’ represent violent crimes detailed in the Offences Against the Person Act (1861), OVP=OASys Violence Predictor (Howard & Dixon, 2012) provides a percentage likelihood of violent reoffending based upon the percentage of a group with the same offending profile who would be reconvicted within one and two years respectively (based on previous samples and reconviction data).

Ethnicity was divided into Caucasian vs non-Caucasian for the purposes of analysis; there was no significant association between group and ethnicity ($\chi^2_{(2)}=3.70$, $n=114$, $p>0.05$). There was a significant association between marital status and group ($\chi^2_{(2)}=25.34$, $n=114$, $p<0.01$) with proportioned Chi square tests indicating that there were more participants who were single in the offender sample than in the aggressive control ($\chi^2_{(1)}=4.71$, $n=45$, $p<0.05$) and in the non-aggressive control group ($\chi^2_{(1)}=23.93$, $n=86$, $p<0.01$). There were also more single participants in the aggressive control compared to the non-aggressive control group ($\chi^2_{(1)}=8.56$, $n=97$, $p<0.01$). The association between group and employment status was also significant ($\chi^2_{(2)}=38.85$, $n=114$, $p<0.01$) and this was accounted for by the greater number of unemployed participants in the offender group than in the aggressive control ($\chi^2_{(1)}=12.01$, $n=45$, $p<0.01$) and

non-aggressive control group ($\chi^2_{(1)}=35.19, n=86, p<0.01$). There was not a significant difference between the control groups ($\chi^2_{(1)}=2.15, n=97, p<0.05$).

Offending histories, number of custodial sentences, risk scores and PDS scores of the offender group are shown in Table two. The mean score on the PDS IM subscale was below the threshold that indicates results may be invalid (see Appendix N for further details).

Preliminary psychometric properties of the VIQ

Internal consistency

Internal consistency was evaluated for interpersonal items only in the offender and aggressive control groups because variance in non-aggressive control participants was likely to be very low. The Cronbach's alpha for the offender and aggressive control participants ($n=45$) was 0.73, which represents good internal consistency for a subscale of nine items.

Non-social control items were not analysed because they were specifically chosen to be of a negative nature but without a consistent theme; they were there to control for negativity in interpretations across a range of domains.

Normality of data

The two key dependent variables (VIQ interpersonal and non-social items) were tested for normality using the Shapiro-Wilk (SW) statistic which indicates that, as expected, the distribution for offender and aggressive control participants did not deviate from normality; $SW=0.93, df=17, p>0.05$, $SW=0.93, df=28, p>0.05$ respectively. The non-aggressive control participants did differ from normality ($SW=0.85, df=69, p<0.05$). The distribution problem for non-aggressive controls is largely due to a positive skew with the majority of scores being very low.

Primary variable: VIQ interpretations

These data were analysed using a mixed model analysis of variance using one grouping factor (offender, aggressive controls and non-aggressive controls) and one within-subjects variable (VIQ item type; interpersonal vs non-social situations). There was a significant main effect of item type ($F_{[1, 111]}=7.07, p<0.01$) and of group ($F_{[2, 111]}=3.54, p<0.05$). These effects were modified by a significant item type x group interaction ($F_{[2, 111]}=7.58, p<0.01$) as shown in Figure two.

Due to the significant interaction a simple main effects analysis was conducted using one-way analyses of variance for each item type. These showed a significant main effect for interpersonal VIQ items ($F_{[2, 111]}=9.86, p<0.01$) but not for non-social items ($F_{[2, 111]}=0.1, p>0.05$).

Post-hoc tests (Fisher's Least Significant Difference; LSD) were therefore conducted for interpersonal VIQ items only and revealed that the non-aggressive control group was significantly different to both the offender and aggressive control groups ($p<0.01$) but the offender and aggressive control groups did not differ significantly ($p>0.05$). Paired samples t -tests were carried out to examine within-group responses on interpersonal and non-social VIQ items. In the offender group there was a significant difference between item types ($t_{[16]}=-2.36$, $p<0.05$) showing that this group made more negative interpretations of interpersonal items than they made of non-social items. The same pattern of results was found in the aggressive control group ($t_{[27]}=-2.47$, $p<0.05$) but not in the non-aggressive control group ($t_{[68]}=1.81$, $p>0.05$) which showed no significant difference between interpersonal and non-social VIQ items.

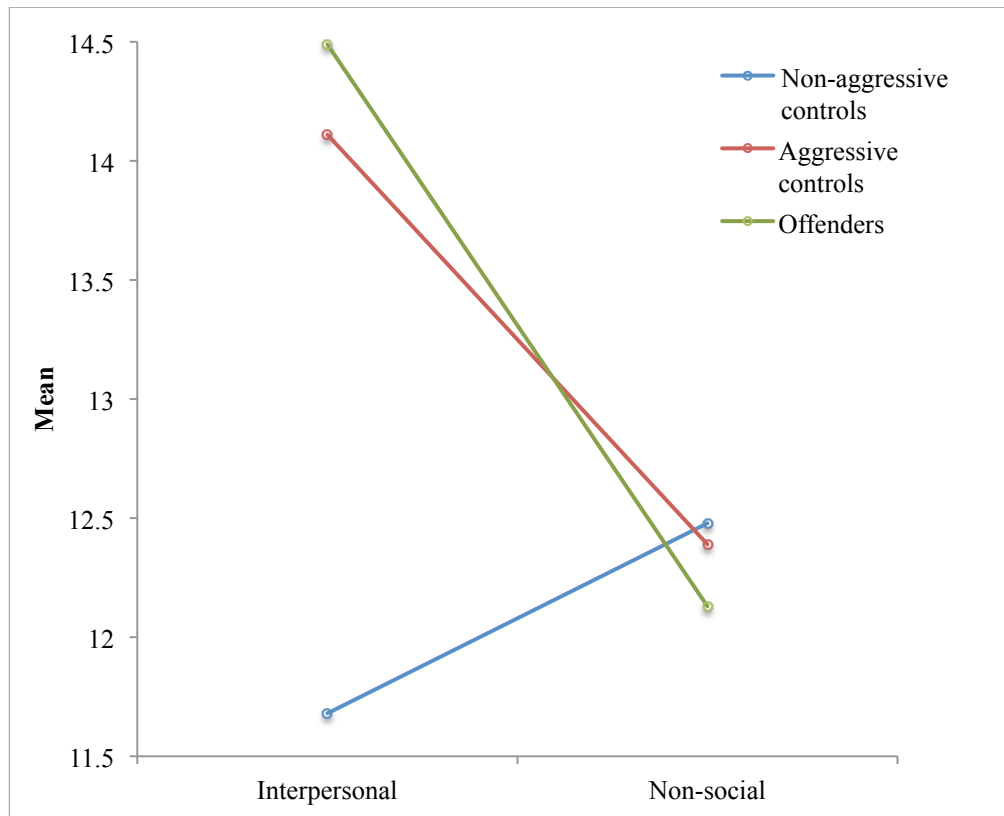


Figure two. Interaction of group and VIQ item type

Secondary variable: VIQ Aggression

A one-way analysis of variance was carried out to investigate the anticipated behavioural response of participants in the three groups on interpersonal items (aggression score). There was a significant effect of group ($F_{[2,111]}=11.21$, $p<0.01$). Post-hoc tests (LSD) revealed significant differences between the offender group and both aggressive and non-

aggressive control groups ($p<0.01$) but no significant difference between the aggressive and non-aggressive control groups ($p>0.05$). These results show that the aggression scores of the offender group were significantly higher than both the aggressive and non-aggressive control groups (see Table three).

Table three. Results of included variables

Variable	Mean (SD)		
	Offender group; <i>n</i> =17	Aggressive control; <i>n</i> =28	Non-aggressive control; <i>n</i> =69
VIQ interpersonal	14.49 (4.46)	14.11 (3.37)	11.68 (2.41)
VIQ non-social	12.13 (2.56)	12.39 (2.27)	12.48 (3.26)
VIQ aggression	1.44 (2.51)	0.39 (1.03)	0.04 (0.21)
MVQ machismo	9.65 (10.59)	7.50 (6.92)	2.12 (3.15)
MVQ acceptance	8.18 (2.83)	9.68 (2.87)	6.70 (3.71)
SRVS (8-item)	1.29 (1.57)	2.54 (2.50)	0 (0)
NPI	2.53 (2.24)	5.46 (3.44)	2.84 (2.64)

Further analyses

MVQ

MVQ machismo and acceptance scores are shown in Figure three. A one-way analysis of variance was carried out and found a significant effect of group on MVQ machismo ($F_{[2,111]}=16.13$, $p<0.01$) and acceptance scores ($F_{[2,111]}=7.89$, $p<0.01$). Post hoc tests (LSD) revealed that MVQ machismo scores of non-aggressive controls were significantly different to those of both aggressive controls and offenders ($p<0.01$); there was no significant difference between offender and aggressive controls ($p>0.05$). For MVQ acceptance scores a significant difference was found between aggressive and non-aggressive controls ($p<0.01$) but not between the offender group and the aggressive and non-aggressive controls ($p>0.05$).

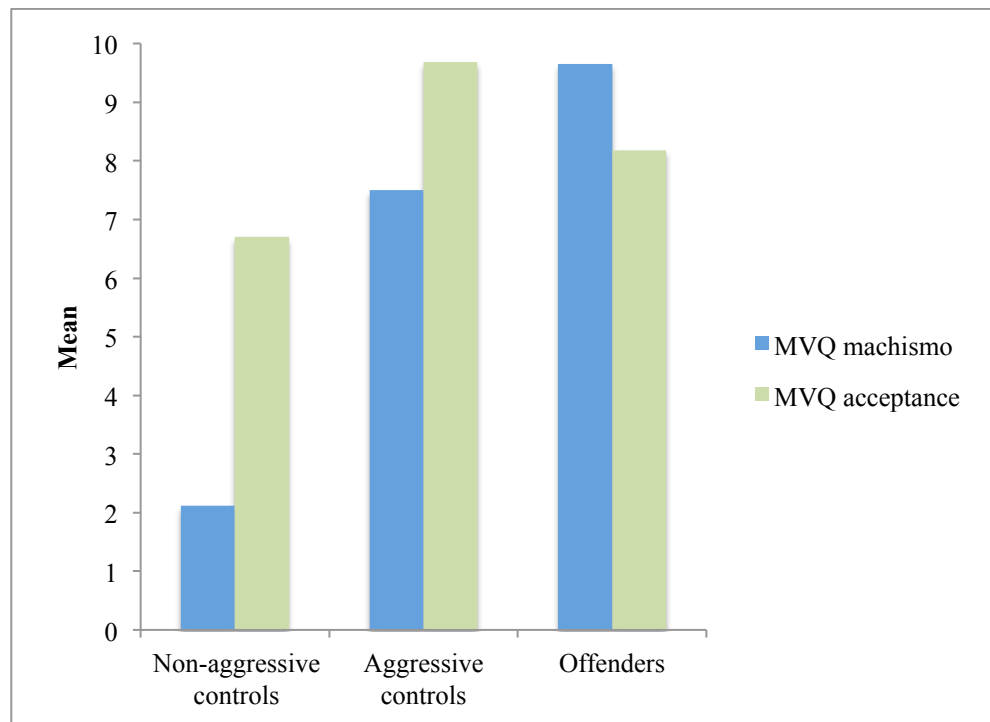


Figure three. Mean MVQ scores

A stepwise linear regression analysis was completed to explore the relationship between MVQ machismo and VIQ interpersonal item scores across the three groups. Tests indicated that multicollinearity was not a concern (MVQ machismo tolerance=1.0, VIF=1.0). A significant effect was found ($F_{[1, 112]}=53.0$, $p<0.01$; $R^2=0.57$). To investigate this effect further the relationship was considered within groups using simple correlations, which found relationships between MVQ machismo and VIQ interpersonal scores in both the non-aggressive controls ($r=0.38$, $n=69$, $p<0.01$) and in the offender group ($r=0.87$, $n=17$, $p<0.01$). However, there was not a significant correlation in the aggressive control group ($r=0.12$, $n=28$, $p>0.05$).

NPI

A one-way analysis of variance was completed for NPI total scores (displayed in Table three) which showed a significant effect of group ($F_{[2,111]}=9.77$, $p<0.01$). Post-hoc tests (LSD) revealed a significant difference between the non-aggressive and aggressive control groups ($p<0.01$) and between the offender and aggressive control groups ($p<0.01$) but not between the offender and non-aggressive control groups ($p>0.05$). It is possible that this resulted from different modes of administration between the offender and control groups with the offender group responding in the presence of the researcher as opposed to anonymously online. No significant correlations were found between NPI scores and VIQ interpersonal or non-social item scores across the three groups.

Discussion

This study compared violent and non-violent men in order to evaluate predictions from the cognitive model of violence (Walker & Bright, 2009b) using a novel measure of interpretations of interpersonal situations and anticipated behavioural responses. Three groups were compared; violent offenders recruited from the probation service (offender group) and two control groups recruited online, one that self-reported violence in the previous 12 months (aggressive control) and the other self-reporting no violence (non-aggressive control). The analysis showed that both the offender and the aggressive control group were more likely than the non-aggressive control group to interpret interpersonal situations negatively. There was no difference in interpretations of non-social events indicating that this effect was specific. It was surprising to note that the offender group did not differ from the aggressive controls on the interpersonal interpretation variable, but they did, however, differ on what they said they would do, with the offender group predicting significantly more violent responses than the two control groups who did not differ.

These findings are consistent with those from studies of the MVQ (Walker & Bowes, 2013; Walker & Gudjonsson, 2006). The interpretations of interpersonal situations made by offenders and aggressive controls on the VIQ were more negative than those of non-aggressive controls, reflecting the finding that offenders scored higher on the MVQ machismo subscale than non-offenders (Walker & Bowes, 2013). Furthermore, there was a significant positive correlation between MVQ machismo and VIQ interpersonal scores for offenders and non-aggressive controls. This provides some concurrent validity for the VIQ. MVQ machismo did not differentiate offenders and aggressive controls, which is surprising. VIQ interpersonal scores also did not differentiate these two groups, however, the aggression score did. This means that the VIQ adds something to the MVQ by better discriminating the aggressive controls from high-risk violent offenders.

This study was carried out as a test of a part of the cognitive model of violence related to self-referent interpretations of events based on negative self-concept. Although other studies have looked at the role of surface level cognitive rules (Walker, 2005; Warnock-Parkes, Gudjonsson & Walker, 2008; Walker & Bowes, 2013), this is the first empirical study of the more central components. The results are consistent with the theory in that specific respect; violent individuals (offenders and aggressive controls) interpreted interpersonal situations more negatively than non-aggressive controls as predicted. A particularly interesting finding was that of the aggressive control group who *interpreted* interpersonal situations similarly to offenders but predicted that they would *respond* similarly to non-aggressive controls. This suggests that there may be a further factor mediating the relationship between negative interpretation and violent response that comes into play after the appraisal is made, such as impulsivity or ability to tolerate negative interpretations and humiliation. Another important factor that needs to be

considered but was not explored in the present study is the role of anger. Although not explicit in the Walker and Bright cognitive model of violence there is evidence to suggest that anger may arise as a result of interpretations and may play a mediating role in the development of violence. For example, Holbrook et al. (2014) demonstrated that adults experienced higher levels of anger when they perceived another to have greater capacity to inflict harm (i.e. when holding a knife) compared to the perception of less harm (i.e. not holding a knife). This suggests that the interpretation made about another person influences the individual's emotional experience. Once aroused, this anger may serve to mediate the subsequent violent behaviour through energising the individual or over-riding the inhibitory control of the individual (Novaco, personal communication, 24 July, 2015).

The findings of the current study are nevertheless consistent with the Walker and Bright model of violence and the proposition by Beck (1999) that the beliefs of the perpetrator of violence are key and that these beliefs may lead to subsequent misinterpretation of others' behaviour as antagonistic or disparaging which, in turn, can lead to feelings of vulnerability. However, neither this study nor the model provide an explanation of the other mediating factors involved in the pathway from (mis)interpretation to the act of violence. The conclusions of a review by Elison, Garofalo, and Velotti (2014) may provide some useful considerations to this omission, such as the suggestion that shame is experienced following a relational devaluation and this leads to anger and aggression as a defence against this feeling. Clearly anger is potentially a very important mediating factor in the development of affective violence and further consideration needs to be given to how it might be incorporated into that theory. Future research into the Walker and Bright cognitive model and its possible elaboration should include this, as well as into other factors such as shame. DiGiuseppe and Tafrate (2007) argued that clinical models of anger failed to adequately account for why low self-worth can lead to anger rather than depression. This argument could equally well be directed at the cognitive model of violence; further research should seek to explore the mediating factors, such as anger, that lead the individual to externalise and attack rather than to internalise and experience depression.

Limitations

The study is slightly underpowered; the original power calculation identified that a sample of 20 offenders was required but it was possible to meet with only 17. It also cannot be assumed that the offender sample is representative as, although probation officers were asked to consider all offenders on their caseloads, the recruitment strategy involved them selecting offenders who they deemed appropriate and sufficiently low-risk. However, representative sampling in a forensic population is inherently difficult as it could be argued that higher-risk individuals with more anti-social beliefs and tendencies are less likely to volunteer. Indeed,

several offenders stated that previously they would have been unlikely to participate and their responses would have been more negative and more violent.

The difference between data collection methods of the groups is also important to note. It was originally planned that the control group would be recruited from the probation service but this was not possible and it was necessary to substitute this with an anonymous online sample.

Linked to these differences in mode of study administration is the issue of socially-desirable responding. The PDS scores of the offender group suggested that some participants responded in a manner that minimised their socially-undesirable tendencies. This was reflected in the elevated IM scores for some offenders that exceeded the level indicating possible 'faking good'. Furthermore, this manner of responding was also apparent on MVQ acceptance scores; although not significantly different between the offender and the two control groups, there was a significant negative correlation between IM and MVQ acceptance scores, suggesting that offenders with higher 'faking good' scores on the PDS were more likely to minimise their acceptance of violence on the MVQ. It can therefore be hypothesised that the offender group responded in a socially-desirable manner on other variables. Unfortunately this is difficult to avoid, particularly in a forensic sample who may have been uncomfortable disclosing their true thoughts and beliefs about violence. Although confidentiality was strongly emphasised participants were also informed of the researcher's duty to share any new disclosures of serious violent offences.

Research implications

The findings of this study should be replicated with a larger sample and using a comparison of violent and non-violent offenders who would be more likely to match on demographic and other characteristics. As indicated above the cognitive model of violence suggests that self-esteem is a moderator variable in violence and this was not measured here. It is difficult to accurately assess self-esteem, however, further investigation should be made to explicitly identify if self-esteem is implicated.

This study, and particularly the results of the aggressive controls, raises new questions about the cognitive model of violence. Although this group was identified through their endorsement of violent behaviours there was something about them that had so far prevented them from committing serious violent offences (or from getting caught). This group, and identifying mediating factors that would explain the differences in violent behaviour between them and the offenders, in particular the role of anger, should be afforded further research attention.

Clinical implications

The VIQ aggression scores produced the interesting finding that the aggressive control participants interpret interpersonal situations in the same way as the offender group but that their behavioural response would be different. The VIQ adds to information gained by the MVQ, one of the main measures of violent thinking (Bowes & McMurrin, 2013), and, following further research and validation, the VIQ has the potential to be a useful clinical tool to inform risk assessments and outcomes of interventions.

In terms of intervention and treatment, these findings support the use of cognitive-behavioural approaches in working with violent individuals on attribution errors. Furthermore, although not investigated here, the findings may also compliment those of Shanahan et al. (2011) who found a possible role of irrational beliefs, relating to the world and others, in anger. Given the likely importance of anger in the development of violence, further research on the links between anger, negative self-referent interpretations and violence would clarify how interventions that target irrational beliefs and the prevention of anger arousal may also be indicated.

Conclusions

The findings of this study are consistent with the cognitive model of violence with offenders and aggressive control participants interpreting interpersonal situations in a negative manner. The findings also raise further questions about the factors that mediate the relationship between negative interpretations of interpersonal situations and serious violent offending.

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Executive summary

A test of a cognitive model of violence: a comparison of thinking in violent and non-violent men.

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There has been considerable research into the factors that might lead to a person being violent. These include factors that don't change ('static' risk factors) such as gender or previous violent offending. These exist alongside factors that might change ('dynamic' risk factors) such as how much alcohol a person drinks, and environmental factors such as the other people who are around at the time. In addition, there have been studies looking at the psychological factors that might contribute to violence, for example how angry an individual is.

Recently some researchers pulled together evidence from different studies and their own experiences in working with violent offenders and developed a framework (the cognitive model of violence) for thinking about how and why a person becomes violent. This framework suggests that people who have grown up in a violent, abusive or neglectful environment might start to believe that this is because there is something bad about them – or that they are weak or vulnerable for feeling frightened. Without necessarily knowing it, these people might then develop 'rules' to help hide these things about themselves from other people. For example, someone might have the rule 'I must never show others that I am vulnerable', or 'fear is a sign of weakness so I must not let other people see that I am scared, I must show that I am strong instead.' The framework then suggests that something might happen (a 'trigger', which is interpreted as a deliberate action on the part of another person) which either makes the person feel embarrassed or makes them think that they *might* feel embarrassed, and hence vulnerable. Embarrassment and humiliation are unpleasant feelings and are linked to anxiety and fear. So if a person who really wants not to show these feelings suddenly experiences embarrassment, their rules might come into play and they might try to show that they are strong by fighting and 'getting the better' of the person who they consider has humiliated them or shown them to be vulnerable. This resulting violent behaviour might make them feel better in the short-term, but in the long-run it serves to strengthen their beliefs: that they are weak or vulnerable and need to keep sticking to their rules to make sure that other people don't see this or otherwise take advantage of them.

The reason for doing this research study was to test whether this framework reflects the processes involved in violence in reality. A small part of the framework relating to how a person interprets social situations was looked at in detail. The framework suggests that people who are violent will have an enduring tendency to misinterpret the ambiguous actions of other people as humiliating or disrespectful to a greater extent than people who are not violent. A questionnaire, the Violence Interpretation Questionnaire (VIQ), was therefore developed to test this theory. The questionnaire was given to participants to complete, along with some other measures – one about violent thinking, one about how people feel about themselves and one asking about incidences of violent behaviour in the past year. Three groups of participants completed the study: an 'offender group' of 17 violent offenders from the probation service and a sample of online control participants who were split into two groups depending on how they

responded to the questionnaire about violent behaviour, giving an aggressive control group of 28 participants and a non-aggressive control group of 69. The offender group also completed a questionnaire to give the researcher an idea about how accurate their responses were. (It can understandably be difficult to be completely honest when talking to a researcher, especially when talking about things that are against the law. This measure was included to give an idea of how reliable the responses of offenders were.)

The results of the study found that, as predicted by the theory, the offender group and the aggressive control group both made more negative interpretations of social situations than the non-aggressive control group. Also as expected, there was no difference between the groups' appraisals of non-social situations, which suggests that the negative interpretations were specific only to situations with other people. Participants were also asked what they would do in these social situations. Surprisingly, although the aggressive control and offender groups *interpreted* the situations in the same way, the aggressive control group said that they would *behave* in the same way as non-aggressive controls – less aggressively than the offenders. There was also a link between violent thinking on a different measure (the Maudsley Violence Questionnaire) and scores on the VIQ that suggests that the latter is picking up the information that it is designed to do.

The findings of this study are interesting. They provide some evidence that the framework for thinking about how violence develops is accurate. The study also highlighted something new; the aggressive control group interpreted social situations in the same way as the offender group but predicted that, like the non-aggressive control group, they would respond less aggressively than the offenders. This suggests that there might be another important factor involved in violence; there is something that means that the offenders interpret social situations negatively and are more likely to go on to be violent, whereas the aggressive controls interpret this way but are less likely to behave in a violent manner. Some ideas for this difference were suggested. For example, the offenders may be more impulsive and so less able to stop themselves reacting physically than the aggressive control group. Another suggestion is that the aggressive control group might be more aware and fearful of the consequences of being violent (such as getting hurt or into trouble). Alternatively, the aggressive control group might care less about what others think about them than the offenders and so feel less need to attack or retaliate or attack to show their strength.

However, these are just hypotheses and more research needs to be done. Another study with more people would make the results more convincing. It would also be interesting to conduct a study with people who would fit in the aggressive control group to find out what stops them from committing violent offences.

Narrative overview

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June 2015

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Clinical psychology training has provided the opportunity to develop my research skills and to learn about combining research and clinical practice. My three research projects have been very different in terms of design and implementation but have a common theme of a cognitive-behavioural approach. Alongside my research skills I also feel that these projects have helped me to develop my understanding of cognitive frameworks and treatments.

Critical review of the literature

I systematically reviewed psychological interventions for bipolar disorder and the differential effect of such interventions upon depression and mania. Although a full range of psychological approaches were included in the searches the exclusion criteria resulted in exploration of only two in depth; psychoeducation and CBT. This was mainly because studies of other approaches used out-dated screening tools or did not report a follow-up period.

The focus of the review was developed in collaboration with my supervisor, Dr James Gregory, who had a prior research interest in the field. Consideration was given to recent narrative reviews of the psychological treatment of bipolar disorder that made brief reference to differential effects on depression and mania, but whose design and methodology were flawed. It was agreed that there was justification for a review specifically on this topic. It was also decided that a systematic review would be conducted in order to provide a more methodologically robust account of the evidence than those already published. I have been pleased with this decision and have come to recognise both the value of, and the substantial amount of work involved in, conducting such a review.

High-quality systematic reviews include quality analysis and inter-ratings for the screening process and data extraction. We were presented with a challenge; how to fulfil these aspects, thus ensuring that the review would be methodologically sound, whilst also being realistic in respect to the time constraints of clinical training. A solution was found through approaching two other trainee clinical psychologists who had decided to conduct systematic reviews. It was agreed that we would act as inter-raters for each other, allowing us each to demonstrate the rigour necessary for a high-quality review. It was further agreed that rather than inter-rating the entire screening process a proportion of papers (selected at random) would be screened to make the process broadly equitable across the three reviews, which worked very well.

Writing the results section of the review was particularly challenging. At times I felt overwhelmed by the variety of outcome variables across studies and the difficulties I found in integrating them into a coherent, meaningful synthesis. After the synthesis was carried out it became clear that results were inconsistent across approaches with some finding good effects for depression and others for mania. The review showed that the literature is inconsistent and requires further attention; a valuable addition to the research evidence of bipolar disorder. In

writing the review I was surprised that the majority of interventions were not based upon disorder-specific theoretical models similarly to those upon which successful treatments of anxiety disorders are based. Given the serious nature of bipolar disorder and the high suicide rate of individuals with this diagnosis it seemed surprising that more emphasis had not been placed in gaining an accurate understanding of the mechanisms of the disorder. I am therefore pleased that my review has been able to highlight this important gap in the literature and hope that it will make a meaningful difference to those with bipolar disorder, despite the inconclusive findings.

Service improvement project

My service improvement project was conducted in a local secondary care mental health service and was supervised by Dr Chris Gillmore and Dr Claire Lomax. Chris attended the first year research fair with an initial idea of evaluating a transdiagnostic group CBT intervention. In collaboration with Claire, we designed the project and particularly considered the service improvement aspect of the project; we agreed that out of the evaluation I would make recommendations in reference to available literature on this topic and conduct a re-evaluation after these had been implemented.

The introduction of the project allowed me to review transdiagnostic CBT interventions; an area not covered in our teaching. It was interesting to develop an understanding of this topic and the potential utility in providing treatment to large numbers of people. It also highlighted to me the common processes that underpin different mental health difficulties, particularly anxiety disorders.

The project presented various challenges which included coming into a service as an external professional and evaluating an intervention that was developed and implemented by members of the team. There was the potential for this to be a threatening process for the team and consideration was given to framing the project accurately; as a means of improving effectiveness for patients, rather than an assessment of the skills of the team. The findings of the initial evaluation were very positive and highlighted good effects of the treatment. This feedback was given at a team meeting and prompted an interesting discussion about some of the limitations of the evaluation and acknowledgment that this innovative intervention should be shared across the Trust and the wider field. I have submitted an article to the Cognitive Behaviour Therapist journal in order to disseminate more broadly.

Following the evaluation I made a number of recommendations for the team to implement in order to collect more robust information to inform future effectiveness studies. The initial evaluation was limited due to a lack of information relating to demographics, diagnoses and session-by-session ratings. Understandably, many of the recommendations were not implemented due to the time demands (i.e. the use of a diagnostic screening tool) and those that were employed were done so in an inconsistent manner. For example, due to

miscommunication, session-by-session feedback was not obtained with only around half of sessions being evaluated in this way. I realised that many of the recommendations related to demonstrating the positive outcomes of the group in a more robust manner but this was understandably not a priority of the team. I found this a little frustrating as I felt there was potential to evidence an important treatment approach for stretched mental health services. However, whilst recognising that the service is not in the position to prioritise high-quality research methodologies at present, I am hopeful that, if accepted for publication, the article about the initial evaluation will accomplish this aim and publicly celebrate the achievements of the team.

Main research paper

I have held an interest in forensic psychology since my undergraduate lectures on the topic and subsequent post as an assistant psychologist in a forensic inpatient unit. When the time came to develop research ideas I met with a colleague from this setting, Dr Julian Walker, to discuss potential ideas. Julian had published a number of articles relating to violence and the role of self-esteem and humiliation in violent behaviour. He had developed a cognitive framework for thinking about violence and suggested the validation of this model in some way might form an interesting and valuable project. Prof Paul Salkovskis has been my academic supervisor and his knowledge of testing out proposed theoretical models led to several ideas and the eventual borrowing of a methodology previously employed to test the cognitive model of panic disorder.

The development of the Violence Interpretation Questionnaire (VIQ) was lengthy. Various formats were suggested and the final one was decided upon after piloting it with friends. Generating ambiguous social situations was difficult but more so were the non-social control items. It was interesting how difficult it was to think of situations that might threaten one's self-esteem that do not involve interactions with other people.

Obtaining ethical approval from the National Offender Management Service was difficult. Unfortunately the forms were submitted over the summer meaning that many people were on leave and it took a considerable amount of time to get initial feedback that provided conditional approval subject to a number of modifications. These included not providing a financial incentive to participants, which felt like a significant setback at the time as I imagined that without this few would agree to participate.

Once approval was obtained there were some further delays in starting recruitment due to redesign of probation services and a considerable amount of uncertainty in the department in which I was intending to recruit. In December of my final year things were more conducive to recruitment and Julian and I approached managers and some key probation officers in the team who seemed positive about the project. However, despite numerous emails, phone calls and meetings, probation officers did not initially respond to my requests for assistance in identifying

and approaching participants about the study. In the new year, with obvious time pressures, I began to spend as much time as possible in the probation offices. I found that talking to people individually and face-to-face was really important in helping them to feel invested in the project and building relationships with probation officers helped them to keep me and my requests in mind. There seemed to be two main factors that limited recruitment. Firstly, a large proportion of the IRIS caseload had convictions of sexual offences and, secondly, due to the high-risk nature of the offenders, many were recalled to prison during the study period. It was therefore necessary to extend recruitment of the offender sample to general probation rather than solely high-risk offenders from IRIS.

Once approval for this amendment was obtained I began to approach other probation officers and managers of approved probation premises in the region. However, without direct face-to-face contact I did not receive positive responses. Some were dismissive of the study stating their lack of time and others were somewhat suspicious of me and my role. The key to finding individuals, therefore, appeared to be meeting individually with probation officers and I spent increasing amounts of time at the police station talking to as many probation officers as I could find.

At the same time I tried to recruit a sample of 20 non-violent offenders from the IMPACT service who manage prolific offenders. When the proposal was written the feedback from members of the team indicated that there would be a large number of offenders who would fit the inclusion criteria. However, after attending a team meeting and presenting the details of the study to over 25 probation officers I received details of just two potential participants. I regularly met and communicated with the manager of the team and we adjusted the inclusion criteria of the non-violent offender sample to include Public Order Act offences that had originally constituted an exclusion criterion. Unfortunately this made no difference and in discussion with Julian and Paul we decided that we would not pursue this sample and would instead use a normative online sample as the control group.

This amendment, although necessary, was disappointing and I felt a little deflated that the study would be less valid. However, I have come to realise that the nature of research, particularly in the context of limited time, often leads to compromises but the results can nevertheless provide important additions to the literature.

Case studies

The case studies that I have completed on each of my placements have been helpful in a number of ways. I feel I have been able to think through specific cases clearly and logically through writing up the process of assessment and intervention, which I think has enhanced the intervention I have delivered to the individuals, involved and also has helped to develop my knowledge of the evidence-base and research skills.

Choosing appropriate cases to write-up has been a challenge throughout training and particularly when trying to use experimental designs. Using pre- and post- outcome measures has been generally manageable on all placements and I have tried to do this as a matter of course in my clinical work. However, to produce a case study with an experimental design a baseline of at least two, preferably three, data points prior to intervention was necessary. This proved more difficult to do and to ask individuals to complete outcome measures as many as three times before beginning any kind of intervention at times felt uncomfortable. This was perhaps exacerbated by the fact that the individual might not know the rationale for doing so as to broach the subject of consent to the case being written-up seemed premature. Despite this I found that the case studies really highlighted the importance of collecting a minimum of pre- and post-outcome data and ideally session-by-session outcome monitoring, and it was especially useful to have this rationale when working with some supervisors who did not use outcome measures routinely.

I found that knowing I needed to write at least one case study on each placement encouraged me to consider my assessments and interventions carefully. It was helpful to think about justifying a particular decision or course of treatment in text and this ensured that my interventions were based upon sound research evidence and NICE guidance where possible. It was also interesting to think about gaps in the literature and guidance, for example in the delivery of the 'Finding a Way' group for couples who were adjusting to a recent diagnosis of dementia.

Case studies can be important additions to the literature around particular problems or interventions. I think that writing up examples of clinical work is a realistic and manageable way in which clinical psychologists can continue to use their research knowledge and skills in NHS services where conducting research projects independently is extremely difficult due to limited time and resources.

Conclusions

The research component of the course has taught me a great deal and has helped to prepare me for the inevitable obstacles and barriers that I will face when conducting research in the NHS. At times I could understand why clinical psychologists often do not continue with research once qualified, with the challenges along the way sometimes feeling overwhelming. However, training has also emphasised the importance of evidence-based practise and I fully intend to continue adding to the research literature once qualified.

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Finally, special thanks to my family and partner for their continued encouragement and support throughout this journey.

Appendices

Appendix A. Systematic review search terms

Searches were run on 12.01.2014 using the following terms:

Bipolar disorder

1. Bipolar
2. Manic depressi*

Study design

3. Controlled trial
4. Controlled study
5. Randomi*

Psychological therapy

6. Cognitive*
7. Behav*
8. Family*
9. Interpersonal and social rhythm therap*
10. IPSRT
11. Mindfulness
12. Psycho-educati*
13. Psychoeducati*
14. Systematic care*
15. Schema
16. Acceptance and commitment*
17. Compassion*
18. Relapse prevention
19. Collaborative*
20. Supportive*

Appendix B. Reasons for exclusion of studies after full-text review

When the full texts of the 94 references that required further review were sought 19 were found to not be journal articles but instead were supplementary abstracts, poster abstracts of symposium comments. These have therefore not been included in the following table.

Study	Reason for exclusion (first identified exclusion criterion met)
Bauer, Biswas, and Kilbourne (2009)	No data on bipolar symptoms or course of illness - medication concordance study
Bauer et al. (2006)	No data on bipolar symptoms or course of illness – implementation study
Bernhard et al. (2006)	No data on bipolar symptoms or course of illness – measured depression and expressed emotion in relatives
Bordbar, Soltanifar, and Talaei (2009)	Full text not written in English
Candini et al. (2013)	Not RCT methodology
Chaudhry, Najam, and Naqvi (1998)	Not RCT methodology
Clarkin et al. (1990)	DSM-IV/ICD-10 diagnostic criteria not used
Colom et al. (2003a)	Data reported in follow-up study (Colom et al., 2009b)
Colom et al. (2009a)	Sub-analysis of a larger study (Colom et al., 2009b)
Colom et al. (2004)	Sub-analysis of a previous study (Colom et al., 2003a) reported elsewhere (Colom et al., 2009b)
Costa, Cheniaux, Rangé, Versiani, and Nardi (2012)	No follow-up period reported
Costa et al. (2011)	No follow-up period reported
Crowe et al. (2012)	DSM-IV/ICD-10 diagnostic criteria not used
de Andrés et al. (2006)	Not RCT methodology
Deckersbach et al. (2013)	Sub-analysis of STEP-BD study reported elsewhere (Miklowitz et al., 2007b)
Demant, Almer, Vinberg, Kessing, and Miskowiak (2013)	Study protocol
Frank et al. (2005)	No follow-up period reported
Frank et al. (1999)	Analysis of effect of changing treatment modality rather than the treatment itself; no follow-up period reported
Gindre et al. (2009)	Full text not written in English
Glick, Clarkin, Haas, and Spencer (1993)	Sample is mixed – not all participants have a diagnosis of bipolar disorder
Glick, Clarkin, Haas, Spencer, and Chen (1991)	Sample is mixed – not all participants have a diagnosis of bipolar disorder
González Isasi, Echeburua, Liminana, and Gonzalez-Pinto (2010a)	Data reported in follow-up study (González Isasi et al., 2014)
Honig, Hofman, Hilwig, Noorthoorn, and Ponds (1995)	No data on bipolar symptoms or course of illness – measured expressed emotion in relatives
Honig, Hofman, Rozendaal, and	No data on bipolar symptoms or course of illness – measured

Dingemans (1997)	expressed emotion in relatives
Ives-Deliperi, Howells, Stein, Meintjes, and Horn (2013)	No data on bipolar symptoms or course of illness – neuroimaging study
Javadpour, Hedayati, Dehbozorgi, and Azizi (2013)	DSM-IV/ICD-10 diagnostic criteria not used
Kilbourne et al. (2013)	DSM-IV/ICD-10 diagnostic criteria not used
Kilbourne, Li, Lai, Waxmonsky, and Ketter (2013)	Sample is mixed – not all participants have a diagnosis of bipolar disorder
Kilbourne et al. (2008)	DSM-IV/ICD-10 diagnostic criteria not used
Lam et al. (2003)	Data reported in follow-up study (Lam et al., 2005)
Madigan et al. (2012)	No data on bipolar symptoms or course of illness – carer focused outcomes
Miklowitz, George, Richards, Simoneau, and Suddath (2003)	DSM-IV/ICD-10 diagnostic criteria not used
Miklowitz et al. (2007a)	No follow-up period reported
Miklowitz et al. (2003)	Not RCT methodology
Moller and Murphy (1997)	Sample is mixed – not all participants have a diagnosis of bipolar disorder
Morriss et al. (2011)	Study protocol
Parikh et al. (2013)	Sub-analysis of a previous study reported elsewhere (Parikh et al., 2012)
Perlick et al. (2010)	No follow-up period reported
Peters, Pontin, Lobban, and Morriss (2011)	No quantitative statistical analysis – qualitative methodology
Proudfoot et al. (2012)	DSM-IV/ICD-10 diagnostic criteria not used
Rea et al. (2003)	DSM-IV/ICD-10 diagnostic criteria not used
Reinares et al. (2010)	Sub-analysis of a previous study reported elsewhere (Reinares et al., 2008)
Scott, Garland, and Moorhead (2001)	DSM-IV/ICD-10 diagnostic criteria not used
Simon, Ludman, Bauer, Unutzer, and Operskalski (2006)	No follow-up period reported
Simon et al. (2005)	No follow-up period reported
Smith et al. (2009)	Study protocol
Swartz, Frank, and Cheng (2012)	No follow-up period reported
Torrent et al. (2013)	No follow-up period reported
Van Dijk, Jeffrey, and Katz (2013)	DSM-IV/ICD-10 diagnostic criteria not used
Wang et al. (2000)	Full text not written in English
Weber et al. (2010)	Not RCT methodology
Williams et al. (2008)	No follow-up period reported

Appendix C. POMRF quality rating scores

Scores for included studies rated using the POMRF system as presented in (Öst, 2008).

Study	1. Clarity of sample description	2. Severity/ chronicity of the disorder	3. Represen - tativeness of sample	4. Reliabilit y of diagnosis	5. Specificity of outcome measures	6. Reliability and validity of outcome measures	7. Use of blind evaluato rs	8. Assessor training	9. Assignment to treatment	10. Design	11. Power analysis	12. Assessment points
Ball et al. (2006)	1	1	1	1	2	2	1	0	1	0	0	2
Castle et al. (2010)	2	1	2	0	2	1	0	0	2	0	0	2
Colom et al. (2003b)	2	2	1	1	2	2	1	0	1	1	0	2
Colom et al. (2009b)	1	2	1	1	2	2	1	0	1	1	0	2
D'Souza et al. (2010)	1	1	1	0	2	2	1	0	1	0	0	2
Gomes et al. (2011)	2	0	1	1	0	0	1	0	1	0	2	2
González Isasi et al. (2010b)	1	2	1	0	2	2	1	0	1	0	0	1
González Isasi et al. (2012)	1	2	1	0	2	2	1	0	1	0	1	2
Jones et al. (2014)	1	2	1	0	2	2	1	0	1	1	0	1
Lam et al. (2000)	1	2	1	0	2	2	1	0	1	0	0	2
Lam et al. (2005)	1	2	1	1	2	2	1	0	1	0	0	2
Meyer and Hautzinger (2012)	2	1	1	2	2	2	1	0	1	1	1	2
Miklowitz et al. (2007b)	1	0	1	1	0	0	0	2	1	1	0	1
Parikh et al. (2012)	2	2	1	0	2	2	1	2	1	2	1	2
Perich et al. (2013)	2	2	1	1	2	2	1	1	1	0	1	2
Reinares et al. (2008)	1	0	1	1	2	2	1	1	1	0	0	2
Sajatovic et al. (2009)	1	0	2	0	2	2	0	0	1	0	0	1
Scott et al. (2006)	1	1	2	2	1	1	1	1	1	0	1	2
Smith et al. (2011)	1	0	1	0	2	2	1	0	1	0	0	1
Weiss et al. (2007)	1	1	1	1	2	2	1	1	1	2	0	1
Weiss et al. (2009)	1	0	1	1	2	2	1	1	1	2	1	1
Zaretsky et al. (2008)	1	0	1	1	2	2	1	0	1	1	0	2
Total	28	24	25	15	39	38	19	9	23	12	8	37

Study	13. Manualised, replicable, specific treatment programmes	14. Number of therapists	15. Therapist training/ experiences	16. Checks for therapist adherence	17. Checks for therapist competence	18. Control of concomitant treatments	19. Handling of attrition	20. Statistical analyses and presentation of results	21. Clinical significance	22. Equality of therapy hours	Total
Ball et al. (2006)	2	0	2	1	1	1	2	2	1	0	24
Castle et al. (2010)	2	1	2	0	0	0	1	2	1	0	21
Colom et al. (2003b)	0	1	1	0	0	1	2	2	1	0	23
Colom et al. (2009b)	2	1	2	0	0	1	1	2	1	0	24
D'Souza et al. (2010)	1	1	1	0	0	0	1	2	1	0	18
Gomes et al. (2011)	0	1	2	1	0	0	1	2	1	0	18
González Isasi et al. (2010b)	1	1	1	0	0	1	0	2	1	0	18
González Isasi et al. (2012)	1	1	1	0	0	1	2	2	1	0	22
Jones et al. (2014)	1	1	2	0	0	0	1	2	1	0	20
Lam et al. (2000)	1	1	2	0	0	1	0	2	1	0	20
Lam et al. (2005)	1	1	2	0	0	1	1	2	1	0	22
Meyer and Hautzinger (2012)	2	1	2	0	0	0	2	2	1	2	28
Miklowitz et al. (2007b)	1	1	1	2	0	1	1	2	1	0	18
Parikh et al. (2012)	2	1	2	1	0	1	1	1	1	0	28
Perich et al. (2013)	1	0	2	1	0	1	2	2	1	0	26
Reinares et al. (2008)	1	0	1	0	0	1	1	1	1	0	18
Sajatovic et al. (2009)	2	1	1	2	0	1	1	2	1	0	20
Scott et al. (2006)	1	1	2	1	1	1	2	1	1	0	25
Smith et al. (2011)	1	0	2	0	0	0	0	1	1	0	14
Weiss et al. (2007)	1	1	2	2	2	0	0	1	1	2	26
Weiss et al. (2009)	1	1	2	2	2	1	0	0	1	2	26
Zaretsky et al. (2008)	1	0	0	0	0	1	1	0	1	0	16
Total	26	17	35	13	6	15	23	35	22	6	N/A

Appendix D. Outcomes of psychological intervention for depression and mania

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
CBT								
Ball et al. (2006) N=52 POMRF=24	Trend for longer time to depressive relapse was lost when baseline depression was controlled for (HR=0.57, 95% CI = 0.17 to 1.88, $p=0.36$)	No significant differences between groups for time to manic relapse.	No significant difference in number of relapses (no statistics presented)	No significant difference in number of relapses (no statistics presented)	At 12m follow-up using the CGI depressive symptoms were significantly improved compared to the control group (17/25 vs 9/27, $\chi^2=6.24$, $df=1$, $p=0.01$). No significant difference on other measures of depression at 12 month follow-up (BDI, HDRS, MADRS)	At 12m follow-up using CGI there was no significant difference between CT and control groups for symptoms of mania (17/25 vs 12/27, $\chi^2=2.92$, $df=1$, $p=0.09$). No significant difference found on other measures of mania (YMRS, SRMI).	No significant difference between treatment and control participants	No significant difference between treatment and control participants
Gomes et al. (2011) N=50 POMRF=18	Non-significant trend for longer time to depressive relapse ($df=1$, Wilcoxon=3.328, $p=0.068$)	Non-significant trend for shorter time to manic relapse ($df=1$, Wilcoxon=1.498, $p=0.221$)	Number of depressive episodes was greater in control group than treatment group but difference was not significant ($p=0.74$).	Study combined mixed and manic episodes and found a non-significant trend for a greater number in the treatment group ($df=1$, $\chi^2=1.57$, $p=0.46$)				
González Isasi et al. (2010b) N=40					Proportion of participants with severe depressive symptoms fell by	Proportion of participants with moderate symptoms of		

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
POMRF=18					10% in treatment group but remained stable in control group – but difference was not significant ($p=0.561$ after controlling for baseline symptoms).	mania fell from 20% to 10% in control group and from 10% to 0% in treatment group – no significant results found ($p=1.0$).		
González Isasi et al. (2014) N=20 POMRF=22					At 5 year follow-up depressive symptoms were significantly decreased in the treatment group compared to controls (BDI: $t=6.71$, $p<0.001$).	At 5 year follow-up mania symptoms were significantly milder in treatment group compared to control (YMRS: $t=3.28$, $p=0.004$).		
Jones et al. (2014) N=67 POMRF=20	Significantly longer survival time to depressive relapse ($\chi^2=7.63$, $p<0.006$, estimated HR = 0.37, 95% CI 0.18–0.77)	Time to manic relapse was significantly longer in treatment group ($\chi^2= 6.77$, $p<0.009$, estimated HR = 0.38, 95% CI 0.19–0.79)			During follow-up period no significant impact of treatment over control on depressive symptoms (HRSD, -0.98, 95% CI -3.66 to 1.71, $se=1.37$, $d=-0.17$)	No significant benefit of treatment on manic symptoms over control (BRMS, -0.66, 95% CI -1.69 to 0.37, $se=0.53$), $d=-0.19$)		

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
Lam et al. (2000) N=25 POMRF=20			Significant difference in mean number of depressive episodes was lost when baseline variables were controlled for (Adjusted rate ratio=0.31, $p>0.05$).	After controlling for baseline variables only mean number of hypomanic episodes was significantly reduced in treatment group (Adjusted rate ratio=0.13, $p<0.05$)	When baseline HRSD scores were controlled for treatment group were significantly less depressed at 12m ($F=3.39$, $p=0.04$).	At 12m symptoms of mania were significantly reduced in the treatment group compared to controls (MAS; $F=8.35$, $p<0.01$).		
Lam et al. (2005) N=103 POMRF=22	Significantly longer time to depressive relapse after baseline variables were controlled for (HR=0.38, 95% CI=0.19–0.75; $p<0.006$)	No difference in survival time to manic relapse (HR=0.71, 95% CI= 0.38–1.35; $p=0.30$)	No significant difference in occurrence of depressive relapse (no statistics presented)	No significant difference in occurrence of manic relapse (no statistics presented)	No significant benefit of treatment on symptoms of depression at any time point (at 30m follow-up $F=0.21$, $df=1, 70$, $p=0.9$)	Significantly reduced mania scores at 30m follow-up in treatment group ($F=4.0$, $df=1, 70$, $p=0.04$).	Over 30m treatment group experienced significantly fewer days in depressive episode than control group (mean difference=-74.93, 95%CI=-142.20 to -7.84, $p=0.03$).	Over 30m no significant difference in days in manic episode between groups (mean difference=-32.88, 95%CI=-71.56 to 5.80, $p=0.10$).
Meyer and Hautzinger (2012) N=76 POMRF=28	No significant difference in survival time to depressive relapse (log rank $\chi^2=0.02$, $p>0.05$)	No significant difference in survival time to manic relapse (log rank $\chi^2=1.33$, $p>0.05$)			At post treatment there was no significant difference between groups on symptoms of depression (BDI: $F=1.86$, BRMS: $F=0.06$; $p>0.05$)	At post treatment there was no significant benefit of treatment for symptoms of mania (SRMI: $F=1.05$, BRMAS: $F=0.53$; $p>0.05$)		
Parikh et al. (2012)* N=204	No significant difference for time to depressive	No significant difference for time to manic relapse			No significant between-group differences for	No significant between-group differences for		

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
POMRF=28	relapse ($p=0.76$).	($p=0.46$).			symptoms of depression ($p=0.89$).	symptoms of mania ($p=0.96$).		
Scott et al. (2006) N=253 POMRF=25			No difference in recurrence of depressive episodes (no statistics presented)	No difference in recurrence of manic episodes (no statistics presented)	At 18m no significant benefit of CBT for symptoms of depression (no statistics presented)	At 18m no significant benefit of treatment for symptoms of mania (no statistics presented)		
Weiss et al. (2007) N=62 POMRF=26					At follow-up, treatment group showed more depressive symptoms than controls ($z=6.48$, $p<0.001$). **	At follow-up treatment group showed more manic symptoms than controls ($z=2.43$, $p<0.05$). **		
Weiss et al. (2009) N=61 POMRF=26			Significantly fewer depressive episodes in treatment group (mean difference=-0.7, SE=0.4, $p<0.01$)	No significant difference in number of manic episodes (mean difference=-0.02, SE=0.6, $p>0.05$)	At follow-up there was no significant effect of treatment over control on symptoms of depression (effect=0.7, SE=1.4, $p>0.05$)	No significant effect of treatment on symptoms of mania compared to controls at follow-up (effect=-1.2, SE=1.3, $p>0.05$)		
Zaretsky et al. (2008)* N=79 POMRF=16					Treatment group had a greater decrease in depression scores from pre- to post-treatment than control group but not statistically significant ($F_{[1,44]}=3.87$, $p=0.055$).		Treatment group reported significantly fewer days in which they rated themselves as depressed than controls ($F_{[1,43]}=4.26$, $p=0.045$).	

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
PE								
Castle et al. (2010) N=84 POMRF=21	Significantly longer survival to depressive relapse (χ^2 (1)=5.53, $p=0.02$)	Significantly longer survival to manic relapse (χ^2 (1)=6.65, $p=0.01$)	Significantly fewer depressive relapses in treatment group (HR=0.18, 95% CI=0.04–0.85; $t_{545}=-2.16$, $p=0.03$)	Fewer cases of manic relapse in treatment group but estimation of hazard ratio was not possible. (Manic relapse: 0 in treatment group and 6 in control, hypomanic relapse: 9 in treatment group and 5 in control).	No significant between-group differences at follow-up (adjusted treatment effect coefficient= -0.61, 95%CI=-4.42 to 3.20, $t_{32}=-0.32$, $p=0.8$).	No significant between-group differences at follow-up for symptoms of mania (adjusted treatment effect coefficient=1.29, 95%CI=-1.14 to 3.72, $t_{36}=1.04$, $p=0.3$).	Significantly more time spent unwell in the control group compared to treatment (Mann-Whitney $z = 2.29$, $p=0.02$).	
Colom et al. (2003b) N=50 POMRF=23			Significantly fewer depressive relapses in treatment group ($\chi^2=8.11$, $p=.004$).	Fewer manic or hypomanic relapses in treatment group ($\chi^2=5.55$, $p=.01$). (When broken down difference in hypomanic relapse rates was not significant but mania remained so; $\chi^2=4.66$, $p=0.03$)				
Colom et al. (2009b) N=99 POMRF=24			Significantly fewer recurrences than in control group at 5 year follow-up ($d=0.80$) although effect size for control not reported	Significantly fewer recurrences of mania ($d=0.57$) and hypomania ($d=0.42$) at 5 year follow-up			Significantly fewer mean days spent in depressive episode for treatment group compared to controls ($F=35.46$, $p<.001$).	Significantly fewer days in mania ($F=4.59$, $p=.035$) or hypomania ($F=8.84$, $p=.004$) in treatment group compared to controls.

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
D'Souza et al. (2010) N=58 POMRF=18					At follow-up no significant benefit of treatment over control for symptoms of depression ($U=390.5$, $p>0.05$).	At follow-up treatment group rated mania symptoms significantly less than control group ($U=225$, $p=0.009$).		
Reinares et al. (2008) N=113 POMRF=18	No significant difference in time to depressive episode between groups.	Time to hypomanic/manic relapse was significantly longer in treatment condition (log rank $\chi^2=5.84$, $p=0.015$)	No significant difference for number of depressive relapses ($p=0.211$).	Significantly fewer participants experienced manic relapse than in control group ($p=0.017$).				
Sajatovic et al. (2009) N=164 POMRF=20					No significant difference in depression scores at follow-up between groups ($p=0.40$).	No significant differences between groups on mania scores at follow-up ($p=0.22$).		
Smith et al. (2011) N=50 POMRF=14			No significant difference for number of depressive episodes ($\chi^2=0.42$, $p=0.52$).	No significant differences between groups for number of episodes of mania ($\chi^2=0.04$, $p=0.84$) or hypomania ($\chi^2=0.76$, $p=0.38$).	No significant between-group difference for depressive symptoms ($F=0.46$, $p=0.50$).	No significant between-group difference for manic symptoms ($F=1.03$, $p=0.32$).		
MBCT								
Perich et al. (2013) N=204 POMRF=26	No significant difference in time to depressive relapse (HR=0.974; 95%	No significant difference in survival to manic relapse (HR=1.813; 95%			No significant difference between treatment group and control condition for	No significant difference between groups for symptoms of mania (no		

Study	Survival time		Number of relapses		Symptom severity		Time in episode	
	Depression	Mania	Depression	Mania	Depression	Mania	Depression	Mania
	CI=0.509–1.864; $\chi^2=0.006$, $p=0.936$	CI=0.782–3.622; $\chi^2=1.813$, $p=0.183$			depressive symptoms (no statistics presented)	statistics presented)		

Note: White background indicates a significant positive finding; light grey indicates no data reported for mania and depression separately; dark grey indicates no significant difference between treatment and control. CT has been included together with CBT interventions.

Measures: BDI = Beck Depression Inventory (Beck et al., 1996), BRMAS = Bech-Rafaelsen Mania Rating Scale (Bech et al., 1978), BRMS = Bech-Rafaelsen Melancholia Scale (Bech & Rafaelsen, 1980), HDRS = Hamilton Depression Rating Scale (Hamilton, 1960), MADRS = Montgomery-Asberg Depression Rating Scale (Snaith et al., 1986), SRMI = Self-Rating Mania Inventory (Shugar, Schertzer, Toner, & Di Gasbarro, 1992), YMRS = Young Mania Rating Scale (Young et al., 1978)

*Zaretsky et al. (2008) and Parikh et al. (2012) compared CBT and psychoeducation and are listed under CBT, however, results should be considered for psychoeducation also.

**Weiss et al. (2007) was the only study in which the intervention condition produced significantly worse results than control.

Appendix E. CBT group plan

<i>Session one</i>	Introduction to group format and the CBT model.
<i>Session two – ‘What we do’ part one</i>	Discussions about behaviour and its impact on emotions Introduction to mindfulness
<i>Session three – ‘What we do’ part two</i>	Home practise review and mindfulness Reiteration of the CBT cycle Introduction to the Achievement, Closeness and Enjoyment (ACE) log for monitoring how behaviour affects mood
<i>Session four – ‘What happens in our bodies’</i>	Home practise review and mindfulness Overview of link between cognitions/emotions and physiology Discussions about the fight-flight-freeze response Introduction to stress-reduction strategies (using ‘stress bucket’ analogy)
<i>Session five – ‘What we think’ part one</i>	Home practise review and mindfulness Introduction to Negative Automatic Thoughts (NATS) Accessing and identifying NATs
<i>Session six – ‘What we think’ part two</i>	Home practise review and mindfulness Introduction to unhelpful thinking patterns Thought analysis strategies
<i>Session seven – Self-esteem</i>	Home practise review and mindfulness Overview of self-esteem
<i>Session eight - Assertiveness</i>	Home practise review and mindfulness Introduction to assertiveness Strategies for developing assertiveness
<i>Session nine - Anxiety</i>	Home practise review and mindfulness Overview of anxiety and social anxiety Five areas model
<i>Session ten - Depression</i>	Home practise review and mindfulness Over-view of depression and effect of depression on motivation Worry and rumination
<i>Session eleven - Anger</i>	Home practise review and mindfulness Anger and the anger thermometer
<i>Session twelve – Recovery plan</i>	Home practise review and mindfulness Review of skills Developing individual recovery plans
<i>Session thirteen - Booster</i>	Mindfulness Review of individual recovery plans

Appendix F. CBT Group Screening Interview Proforma

Please complete for each participant:

Group start and end date:

Participant name:

Date of Birth:

Gender:

Current medication:

Current psychological intervention:

Previous psychological intervention:

Employment status:

Ethnicity:

Appendix G. Violence Interpretation Questionnaire (VIQ)

VIQ

Participant number: _____

Date: _____

Below are some descriptions of situations in which it is not quite clear what is happening.

Please read each item in turn and answer the questions briefly. There are three parts to each item. Don't think about it for too long – write down the first thing that comes into your mind.

1. Please write down what you think is happening and what you would do before turning over the page.
2. Turn over the page and arrange the possible explanations for the situation in order in which they would be most likely to come to your mind if you found yourself in a similar situation. This means that the one which you are **most likely to think comes first** and the one you are **least likely to think comes third**.
3. Then choose from the three options of things that you might do. Choose the one that you are most likely to do out of the options.

Don't worry if none of the options fits exactly with what you think or what you would do.

There is a sample item to complete before the questionnaire items.

Sample item

a) You see a man running down the road carrying a woman's handbag.

Why?

What would you do?

Sample item

b) You see a man running down the road carrying a woman's handbag.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) They are catching up with a woman who dropped her bag _____
- b) They are carrying the bag for a friend _____
- c) They have stolen the bag _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Carry on with what you were doing ☐
- b) Chase the man ☐
- c) Call the police ☐

- 1. a) You are in the pub with your friends. You notice that your friend is flirting with your partner.**

Why?

What would you do?

1. b) You are in the pub with your friends. You notice that your friend is flirting with your partner.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) They are being friendly but harmless _____
- b) They get a bit over the top when they've had a few drinks _____
- c) They are trying to steal your partner _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Leave the pub with your partner ☐
- b) Have a conversation about it with your friend ☐
- c) Punch him ☐

2. a) You cut yourself whilst shaving.

Why?

What would you do?

2. b) You cut yourself whilst shaving.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

a) You weren't paying enough attention _____

b) You are clumsy _____

c) The razor was blunt _____

What is the most likely thing you would do in this situation? (Please tick one)

a) Carry on shaving ☐

b) Clean the cut ☐

c) Throw the razor across the room and give up ☐

3. a) You are making breakfast and you burn some toast.

Why?

What would you do?

3. b) You are making breakfast and you burn some toast

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You are useless _____
- b) The toaster setting was accidentally turned up _____
- c) You were distracted _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Start again ☐
- b) Give up on breakfast ☐
- c) Smash the toaster on the floor ☐

4. a) You are watching a film. You suddenly feel tearful.

Why?

What would you do?

4. b) You are watching a film. You suddenly feel tearful.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You are weak and pathetic _____
- b) Sometimes things remind you of sad events in your life _____
- c) The film is very sad _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Turn the film off ☐
- b) Keep watching, it's ok to feel emotional ☐
- c) Keep watching and make sure you don't cry ☐

5. a) You are walking through a park when you are hit on the back by a football.

Why?

What would you do?

5. b) You are walking through a park when you are hit on the back by a football.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) The group of men playing football are trying to start a fight _____
- b) The men playing football know you _____
- c) One of the men kicked the ball wide and it hit you by accident _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Throw the ball back to them ☐
- b) Take the ball over and ask for an apology ☐
- c) Puncture the ball and tell them to 'fuck off' ☐

6. a) You are reading a magazine. You don't understand some of the words.

Why?

What would you do?

6. b) You are reading a magazine. You don't understand some of the words.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You are stupid _____
- b) There are some typing errors in the article _____
- c) The magazine is badly written _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Look up the words in a dictionary ☐
- b) Rip up the paper and throw it away ☐
- c) Give up reading the paper ☐

7. a) You are driving on a city centre roundabout. Someone behind you beeps their horn and you see them mouthing swear words.

Why?

What would you do?

7. b) You are driving on a city centre roundabout. Someone behind you beeps their horn and you see them mouthing swear words.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) They are frustrated at the busy traffic _____
- b) They think you cut them up and are angry _____
- c) They are trying to make a fool of you _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Get out of your car and confront the driver ☐
- b) Ignore them ☐
- c) Swear back and drive on ☐

8. a) You are washing up. You drop and smash a glass.

Why?

What would you do?

8. b) You are washing up. You drop and smash a glass.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You were distracted _____
- b) You are a bit clumsy _____
- c) The glass was wet and slippery _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Smash some other glasses ☐
- b) Clear it up and carry on ☐
- c) Give up on the washing up ☐

- 9. a) You are walking down the road. A man walking in the opposite direction knocks into you as he passes.**

Why?

What would you do?

9. b) You are walking down the road. A man walking in the opposite direction knocks into you as he passes.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely).

a) He wasn't looking where he was going _____

b) He was trying to pick a fight _____

c) He tripped up _____

What is the most likely thing you would you do in this situation? (Please tick one)

a) Keep on walking ☐

b) Make a comment about being more careful ☐

c) Hit him ☐

10. a) You are walking down the road and you see a cat that has recently been run over and killed. You feel sad.

Why?

What would you do?

10. b) You are walking down the road and you see a cat that has recently been run over and killed. You feel sad.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You are weak _____
- b) It is sad to see dead things _____
- c) It is a reminder that everyone will die one day _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Keep on walking ☐
- b) Take the cat and bury it ☐
- c) Make yourself look at the cat for a few moments ☐

11. a) You helped a friend move house recently and ask him to return the favour and help you move. He says no because he has to work. On the day of your move you see him watching football in a pub.

Why?

What would you do?

11. b) You helped a friend move house recently and ask him to return the favour and help you move. He says no because he has to work. On the day of your move you see him watching football in a pub.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) He had already made plans but didn't want to hurt your feelings _____
- b) He used you as free labour to help him move but doesn't think much of you __
- c) His plans changed and he forgot the date of your move _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Ignore it and get on with the move ☐
- b) Go into the pub and ask if he is free to help ☐
- c) Go and tell him he's an arsehole and will never be welcome in your home ☐

12. a) You go to meet some friends. When you enter the cafe they quickly stop talking and laughing when they see you.

Why?

What would you do?

12. b) You go to meet some friends. When you enter the cafe they quickly stop talking and laughing when they see you.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) They were making fun of you _____
- b) They were talking about someone you don't know _____
- c) They had come to a natural pause in the conversation _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Ask them what they were talking about ☐
- b) Stand over the last person who spoke and ask 'what the fuck is going on?' ☐
- c) Ignore it and start a new conversation ☐

13. a) You go to catch a bus into town. As you get to the bus stop you see the bus driving off.

Why?

What would you do?

13. b) You go to catch a bus into town. As you get to the bus stop you see the bus driving off.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You are just unlucky _____
- b) You are stupid _____
- c) The bus left earlier than the timetable said _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Wait for the next bus ☐
- b) Forget about going to town and walk home ☐
- c) Walk instead ☐

14. a) You are talking to a friend in a pub. You notice a man standing by the bar who keeps looking at you.

Why?

What would you do?

14. b) You are talking to a friend in a pub. You notice a man standing by the bar who keeps looking at you.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) He thinks he recognises you from somewhere _____
- b) He is looking out for a friend who he is meeting _____
- c) He is trying to provoke you _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Stare him down ☐
- b) Punch him ☐
- c) Ignore him ☐

15. a) You are making a cup of tea and you realise that there is no milk left.

Why?

What would you do?

15. b) You are making a cup of tea and you realise that there is no milk left.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) Someone else has finished it without telling you _____
- b) You are crap at organising your life _____
- c) You forgot to check in the fridge _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Give up on the tea ☐
- b) Go to the shops and get more milk ☐
- c) Drink it black ☐

16. a) You are queuing to pay for something in a supermarket. Someone pushes in front of you.

Why?

What would you do?

16. b) You are queuing to pay for something in a supermarket. Someone pushes in front of you.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) They didn't realise you were queuing _____
- b) They thought you looked weak and an easy person to get in front of _____
- c) They were in a rush _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Let them go ahead ☐
- b) Point out that there is a queue ☐
- c) Push them out of the way ☐

17. a) You are asleep in bed and you wake up suddenly. You feel panicky.

Why?

What would you do?

17. b) You are asleep in bed and you wake up suddenly. You feel panicky.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) You are weak and pathetic _____
- b) It's not nice to wake up suddenly _____
- c) You were having a nightmare _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Go and make sure that there was not a noise that woke you ☐
- b) Go back to sleep ☐
- c) Watch TV for a bit ☐

18. a) A friend of yours owes you £20 and despite you asking a few times, they have not paid you back. You then spot them buying a round of drinks.

Why?

What would you do?

18. b) A friend of yours owes you £20 and despite you asking a few times, they have not paid you back. You then spot them buying a round of drinks.

Please rank the following options in terms of the most likely explanation (using a scale of 1-3 (where 1 is most likely and 3 is least likely)).

- a) They think you are a push over _____
- b) They forgot they owe you the money _____
- c) They are out celebrating with a mutual friend _____

What is the most likely thing you would you do in this situation? (Please tick one)

- a) Let them keep the £20 ☐
- b) Ask them for it again when you next see them ☐
- c) Go and take the drinks that are rightfully yours ☐

Appendix H. VIQ scoring protocol

Interpersonal and non-social subscales

For each question score the rank as follows: If target item is ranked most likely (1) score 3, if ranked second most likely (2) score 2, if ranked least likely (3) score 1.

Aggression subscale

If target item is endorsed score 1, if not endorsed score 0.

Question	Interpersonal subscale		Non-social subscale		Aggression subscale	
	Target item	Rank: 1 st = 3 2 nd = 2 3 rd = 1	Target item	Rank: 1 st = 3 2 nd = 2 3 rd = 1	Target item	Endorsed: Yes=1 No=0
1	C				C	
2			B			
3			A			
4			A			
5	A				C	
6			A			
7	C				A	
8			B			
9	B				C	
10			A			
11	B				C	
12	A				B	
13			B			
14	C				B	
15			B			
16	B				C	
17			A			
18	A				C	
Total	Interpersonal score:		Non-social score		Aggression score	

Appendix I. SRVS

On the basis that it does not constitute a violent illegal act, item eight (highlighted in red) was removed from analysis prior to the control group being split into aggressive and non-aggressive groups.

Self Report Scale - F

ID number:

Instructions: Below is a list of things that people might do. Most people do lots of different activities and might break some rules from time to time. We want to get an idea of the things that you may have done. Please read these questions carefully and think about the things that you have done in the **past 12 months**.

Place a tick in the column that best tells how often you have done these things.

Have you in the past 12 months:	Never	1-3 times	4-6 times	Once a month	More than once a month
1. Purposely hurt or beaten up someone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Taken part in a fist fight in which a group of people was against another group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Used a weapon of some sort e.g. knife, stick, chains, or a bottle in a fight	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Used or threatened to use force to get money or things from another person?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Taken part in an armed robbery or forcing someone to do something with a weapon?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Hit, pushed, punched or slapped someone else?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Harmed or been cruel to an animal or pet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. <i>Been involved in bullying another person?</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Carried a weapon (e.g. a knife, gun) for self-defence or to use against someone?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix J. Participant information sheet

A test of a cognitive model of violence: a comparison of thinking of violent and non-violent men

Information Sheet



We are inviting you to take part in a research study looking at how peoples' thinking affects their violent behaviour.

Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve.

If you decide that you would like to take part, or if you have any further questions, your probation officer will let a researcher know and they will get in touch with you to arrange a convenient time to meet you at Bridewell Police Station. If you would like to take part in the research you be asked to sign a consent form and you will be given a copy.

Thank you for reading this and for your interest in the research.

What is the study about?

There has been a lot of research in the past into the causes of violence. This study is looking at how people's thinking about different situations can contribute to violent behaviour. It is hoped that this may help us to find better ways to help people who have difficulties controlling aggression.

Why have I been chosen?

We are asking about 60 people to take part in the study. Half of these people have a history of violent offending and half do not, but all are in contact with the South West and South Central division of the National Probation Service or the Bristol, Gloucestershire, Somerset and Wiltshire Community Rehabilitation Company. You are being asked because you are under the care of one of these services.

Do I have to take part?

No – you only take part if you want to. If you decide to take part you can withdraw at any time and you don't have to give a reason. If you don't want to take part, or if you decide to stop and withdraw, this won't affect the care you get or you progress through the system.

What do I have to do?

If you do decide to take part, a researcher will contact you in person and arrange a time to meet you at Bridewell police station. You will be asked for some background information and will then be asked to complete five questionnaires. Two of the questionnaires are about your thoughts and feelings about violence. One questionnaire is about how you think and feel about yourself. There is a questionnaire about any violence you have been involved with in the last year and one asks questions that check the validity of responses. The

questionnaires will be fully explained to you before you complete them and a researcher will be available to help you.

Taking part in the study should take no longer than 60 minutes.

We will also ask your permission to look at your probation records and information about any history of violence you may have will be recorded. This will be completely anonymous – no information will be recorded that could identify you in any way.

Will my taking part in this study be kept confidential?

None of your answers will be shared with Probation staff. All of the information that you give us will be anonymous and confidential. The only exception is if you say something that makes us concerned about your or someone else's safety or if you disclose a serious offence not yet known to the police. In this case that information – and only that information – would be shared with Probation staff.

What will happen to the results of the research study?

The results of the study will be written up into a report and will also eventually be published in an academic journal, as well as possibly being used in academic presentations. All results will be shown as group results – no individual results will be used so it will be impossible to identify you from the publication.

What are the disadvantages or risks of taking part?

Other than taking an hour of your time we don't think there are any disadvantages to taking part. But if you are worried about anything, please ask. If you feel distressed or anxious for any reason after participating in the study, please talk to the researcher or your Probation Officer who will be able to direct you to voluntary or NHS services for support as necessary.

What are the benefits of taking part?

You will be taking part in an important research study that may help to develop better ways of supporting people who are violent. Reasonable travel expenses will be covered. If you would like to see the results of the study please let the researcher know.

Who is organising and funding the research?

The University of Bath is funding the research in collaboration with the National Probation Service.

Who has reviewed the study?

This research has been reviewed and approved by the University of Bath Ethics Committee and by the National Offender Management Service.

If you would like more information about the project, please contact your Probation Officer who can pass your query to the research team.

Appendix K. Participant consent form

A test of a cognitive model of violence: a comparison of thinking of violent and non-violent men



**UNIVERSITY OF
BATH**

Consent Form

Please tick box

- | | |
|--|--------------------------|
| 1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions. | <input type="checkbox"/> |
| 2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason, without my medical care, progress or legal rights being affected. | <input type="checkbox"/> |
| 3. I understand that the information I provide will remain secure and confidential and will be held no longer than necessary for the purposes of this research. | <input type="checkbox"/> |
| 4. I agree to take part in the above study. | <input type="checkbox"/> |
| 5. I understand that sections of my probation record may be looked at by members of the research team where it is relevant to my taking part in the research. I give my permission for these individuals to have access to my records. | <input type="checkbox"/> |
| 6. I agree that a copy of this consent form can go into my probation record. | <input type="checkbox"/> |

_____	_____	_____
Name of participant	Date	Signature

Contact details: _____

1 copy for participant; 1 copy for researcher; 1 copy to be kept in probation records

**PLEASE KEEP YOUR COPY OF THE INFORMATION SHEET AND CONSENT
FORM**

Appendix L. Demographic information sheet

ID number:		
Age:		
Ethnicity:	<input type="checkbox"/> White <input type="checkbox"/> White British <input type="checkbox"/> White Irish <input type="checkbox"/> White Other <input type="checkbox"/> Black Caribbean <input type="checkbox"/> Black African <input type="checkbox"/> Black Other <input type="checkbox"/> Asian Indian <input type="checkbox"/> Asian Pakistani	<input type="checkbox"/> Asian Bangladeshi <input type="checkbox"/> Asian Other <input type="checkbox"/> Mixed White & Black <input type="checkbox"/> Caribbean <input type="checkbox"/> Mixed White & Black African <input type="checkbox"/> Mixed White & Asian <input type="checkbox"/> Mixed Other <input type="checkbox"/> Chinese <input type="checkbox"/> Any Other Ethnic Group <input type="checkbox"/> Not Stated
Marital status:	<input type="checkbox"/> Single <input type="checkbox"/> Married/co-habiting <input type="checkbox"/> Separated/divorced	<input type="checkbox"/> Widowed <input type="checkbox"/> No information
Total number of GCSE passes grade A-C:		
Employment status:	<input type="checkbox"/> Unemployed <input type="checkbox"/> Casual <input type="checkbox"/> Permanent	<input type="checkbox"/> Retired <input type="checkbox"/> No information
Length of last sentence:		
Lifer/IPP:	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Date of release from prison:		
Current accommodation:		

Appendix M. Offending history recording sheet

Participant number:	
OVP 1 year:	
OVP 2 year:	
Total convictions	
Total offences:	
Total offences against the person:	
Total custodial sentences:	

Record of Convictions

Date of Conviction	Offence	Custodial Sentence Y/N

Appendix N. Paulhus Deception Scales (PDS) scores

The PDS was administered to the offender group due to the increased likelihood of socially desirable responding in the sample. The mean score on the IM subscale of 7.01 (SD=3.36) is below the threshold that indicates results may be invalid, however eight of the 17 participants did exceed this level. This highlights a tendency for socially desirable responding in some participants in the offender group. Furthermore, there was a significant negative correlation between IM score and MVQ acceptance score in the offender group ($r=-0.72$, $n=17$, $p<0.01$) showing that participants who responded in a socially desirable manner on the PDS were likely to respond similarly on the MVQ (i.e. minimising their acceptance of 'normal' violence and aggression).

Appendix O. *Clinical Psychology Review* author guidelines



CLINICAL PSYCHOLOGY REVIEW

AUTHOR INFORMATION PACK

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Define abbreviations that are not standard in this field in a footnote to be placed on the first page of the article. Such abbreviations that are unavoidable in the abstract must be defined at their first mention there, as well as in the footnote. Ensure consistency of abbreviations throughout the article.

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Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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All necessary files have been uploaded, and contain:

- Keywords
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Further considerations

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- References are in the correct format for this journal
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Appendix P. *The Cognitive Behaviour Therapist* author guidelines

CAMBRIDGE | Instructions for Contributors

the Cognitive Behaviour Therapist

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Aims and Scope

the Cognitive Behaviour Therapist is an interdisciplinary peer reviewed journal aimed primarily at cognitive and behavioural practitioners in the helping and teaching professions. Published online, the journal features articles covering clinical and professional issues, which contribute to the theory, practice and evolution of the cognitive and behavioural therapies. The journal will publish papers that describe new developments; articles that are practice focussed and detail clinical interventions, research reports concerning the practice of cognitive behaviour therapy, detailed case reports, audits that are relevant to practice, and reviews of clinical scales and other assessment methods. The journal will also publish articles that have an education, training or supervision focus. It will also include reviews of recently published literature that is directly relevant to practitioners. A particular feature of the journal

is that its electronic nature is designed to ensure timeliness of publication and professional debate whilst also ensuring rigorous standards in the dissemination of high quality materials with relevance to the practice of the cognitive and behaviour therapies.

Editorial Governance

the Cognitive Behaviour Therapist encompasses most areas of human behaviour and experience, and represents many different research methods, from quantitative to qualitative research, how to do clinical interventions to detailed case studies.

Under the guidance of its editorial board *the Cognitive Behaviour Therapist* aims to reflect and influence the continuing changes in the concepts, methodology, and techniques within the cognitive and behaviour therapies.

BABCP

the Cognitive Behaviour Therapist is published for the British Association for Behavioural and Cognitive Psychotherapies and is the sister Journal to *Behavioural and Cognitive Psychotherapy*.

Editorial Statement – scope of journal content

The Editors welcome authoritative contributions from people working, or otherwise involved, in the practice, research, education, training and supervision in the cognitive and behaviour therapies. Articles must be original and focused upon cognitive and/or behaviour therapy. All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal. There is no formal word limit but concision is recommended.

The journal also welcomes additional or standalone multimedia materials that support, enhance or illustrate specific aspects of CBT or Education the submitted papers such as video or audio, power point presentations or transcripts of therapy sessions.

Practice Articles

The practice of the cognitive and behaviour therapies is based upon empirically grounded interventions. This section will explore this area by the publication of articles that describe

cognitive and behavioural interventions and the research evidence that underpins them or innovative interventions based on cognitive behavioural models. For new areas of application of CBT, articles providing an overview of CBT treatment issues could be considered, whereas in well-established areas, a more detailed approach to one or two specific aspects of therapy may be appropriate. All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal.

Reviews

Reviews of historical, contemporary, or innovative approaches to practice are also sought providing that they demonstrate relevance to the practice of the current of the cognitive and behavioural psychotherapies. Prospective authors for review papers should initially discuss their proposals with one of the editors.

Case Studies

Dissemination of effective practice will be promoted through the publication of case studies that involve cognitive and behavioural psychotherapy with individuals, couples, groups and families. A suggested template is provided which is designed to ensure sufficient information is provided to allow other therapists to replicate successful therapy. All articles must include 3-5 learning objectives that will be achieved through reading the article. At the end of each paper a summary of the main points should be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal. The case study should contribute to the development of theory or clinical practice, and feed into CBT practice as a whole rather than just relating to the specific case.

Authors may find the following guidelines for structure helpful:

- Abstract
- Learning objectives (3-5)
- Introduction: including an outline of theoretical research and clinical literature relevant to the case

- Presenting problem: including information on the presenting problem and associated goals of treatment, diagnosis, relevant history and development of problems, scores on standard and idiographic measures, relevant history
- Conceptualisation: including a relevant theory-based CBT model used as a framework for formulation.
- Course of therapy: including methods used linked to theory and assessment of progress; difficulties encountered and any innovations in therapy
- Outcome: including clinical change, progress towards goals, change to measures, plans for follow-up
- Discussion: including relating to theory and evidence-base as well as reflections on own practice; implications for therapy and recommendations for other clinicians
- Summary: main points of the paper including suggestions for follow-up reading

Original Research

Research evidence is at the heart of the practice of the cognitive and behavioural psychotherapists. Original research will be published that is about and is directly relevant to the practice of the cognitive and behaviour therapies, such as the therapeutic relationship, therapeutic process and the evaluation of therapeutic strategies and techniques. It is expected that such reports meet both the necessary standards of scientific rigour and the journal's requirement of clear implications for the practice of the cognitive and behavioural therapies. Consequently, the description of the research and the presentation of results should be sufficiently brief to enable sufficient discussion of the practice implications. Consideration will be given to quantitative, qualitative and mixed approaches given appropriate fit between the question, methodology and methods of research chosen. All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal.

Education and Supervision

The dissemination of effective cognitive and behaviour therapy through evidence based education and supervision strategies is important to ensure that service users receive proficient therapy and therapists remain up to date. This section will explore educational

practice within the cognitive and behavioural psychotherapies. All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal.

Service Models and Forms of Delivery

The service model is the framework that exists to support the therapist with the delivery of either cognitive and behaviour therapies and services. This section will explore all aspects of the theory and application of service models and the delivery of therapy. Successes and failures have equal part to play in examining the practical application and the role of evidence within the provision of effective cognitive and behavioural interventions within a service context. Papers are invited which explore the structure of teams, processes adopted, the methods and designs involved. Papers that examine the outcomes of audits and their recommendations will also be considered. All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal.

Reviews of Assessment Tools and Methods

Reviews of clinical scales and other assessment methods will also be considered. These reviews should provide the practitioner with a review of a scale's or other tool's purpose and properties, sufficient information to know how and when to use it, and how to interpret the results and make use of them. All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal.

Submission of a manuscript

Papers should be submitted online at <http://mc.manuscriptcentral.com/cbt>

models, evaluations of innovative education strategies and approaches to the supervision of
Style Guide

- Title page. The title should phrase concisely the major issues. Author(s) to be given with departmental affiliations and addresses, grouped appropriately. A running head of no more than 40 characters should be indicated.
- Abstract. The abstract should include up to six key words that could be used to describe the article. This should summarize the article in no more than 250 words, references should not to be included in the abstract.
- All articles must include a set of 3-5 learning objectives that will be achieved through reading the paper. At the end of each paper a summary of the main points from the paper must be included with suggestions for follow-up reading. This stipulation is in keeping with the practitioner and professional development aims of the journal.
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Preferred formats

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The four sections below **must be included**. These statements should be included in the front page, which should be uploaded separately to the main text of the article.

Acknowledgements

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Where research involves human and/or animal experimentation, the following statements should be included (as applicable): “The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008.” and “The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional guides on the care and use of laboratory animals.”

- tif
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21/03/2014

Appendix Q. *Journal of Personality and Individual Differences* author guidelines



PERSONALITY AND INDIVIDUAL DIFFERENCES

The Official Journal of the International Society for the Study of Individual Differences (ISSID)

AUTHOR INFORMATION PACK

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ISSN: 0191-8869

DESCRIPTION

Personality and Individual Differences is devoted to the publication of articles (experimental, theoretical, review) which aim to integrate as far as possible the major factors of **personality** with empirical paradigms from experimental, physiological, animal, clinical, educational, criminological or industrial psychology or to seek an explanation for the causes and major determinants of **individual differences** in concepts derived from these disciplines. The **editors** are concerned with both genetic and environmental causes, and they are particularly interested in possible interaction effects. Ultimately they believe that human beings are bio-social organisms and that work on individual differences can be most fruitfully pursued by paying attention to both these aspects of our nature. They believe that advances are more likely to be made by the use of the hypothetical-deductive method, though empirical data based on sound research and providing interesting new findings, would of course not be rejected simply because they might not have a good theoretical underpinning. All in all, the traditional type of work on traits, abilities, attitudes, types and other latent structures underlying consistencies in **behavior** has in recent years been receiving rather short shrift in traditional journals of personality; *Personality and Individual Differences* aims to reinstate it to its proper place in psychology, equal in importance with general experimental work, and interacting with it to make up a unitary science of **psychology**.

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